



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

A G E N D A

MEETING, MAY 1, 2015

A meeting of the South Coast Air Quality Management District Board will be held at 9:00 a.m., in the Auditorium at SCAQMD Headquarters, 21865 Copley Drive, Diamond Bar, California.

Questions About an Agenda Item

- The name and telephone number of the appropriate staff person to call for additional information or to resolve concerns is listed for each agenda item.
- In preparation for the meeting, you are encouraged to obtain whatever clarifying information may be needed to allow the Board to move expeditiously in its deliberations.

Meeting Procedures

- The public meeting of the SCAQMD Governing Board begins at 9:00 a.m. The Governing Board generally will consider items in the order listed on the agenda. However, any item may be considered in any order.
- After taking action on any agenda item not requiring a public hearing, the Board may reconsider or amend the item at any time during the meeting.

Questions About Progress of the Meeting

- During the meeting, the public may call the Clerk of the Board's Office at (909) 396-2500 for the number of the agenda item the Board is currently discussing.

The agenda and documents in the agenda packet will be made available upon request in appropriate alternative formats to assist persons with a disability. Disability-related accommodations will also be made available to allow participation in the Board meeting. Any accommodations must be requested as soon as practicable. Requests will be accommodated to the extent feasible. Please telephone the Clerk of the Board's Office at (909) 396-2500 from 7:00 a.m. to 5:30 p.m. Tuesday through Friday.

All documents (i) constituting non-exempt public records, (ii) relating to an item on the agenda, and (iii) having been distributed to at least a majority of the Governing Board after the agenda is posted, are available prior to the meeting for public review at the South Coast Air Quality Management District Clerk of the Board's Office, 21865 Copley Drive, Diamond Bar, CA 91765.

The Agenda is subject to revisions. For the latest version of agenda items herein or missing agenda items, check the District's web page (www.aqmd.gov) or contact the Clerk of the Board, (909) 396-2500. Copies of revised agendas will also be available at the Board meeting.

CALL TO ORDER

- Pledge of Allegiance

- Opening Comments: William A. Burke, Ed.D., Chair
Other Board Members
Barry R. Wallerstein, D. Env., Executive Officer

- Presentation of Retirement Award to Elaine Chang **Burke**

Staff/Phone (909) 396-

CONSENT CALENDAR (Items 1 through 18)

Note: Consent Calendar items held for discussion will be moved to Item No. 19

1. Approve Minutes of April 3, 2015 Board Meeting **McDaniel/2500**

2. Set Public Hearings June 5, 2015¹ to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations **Wallerstein/3131**
 - (A) Amend Rule 1148.1 – Oil and Gas Production Wells **Fine/2239**

The proposed amendment seeks to provide enforceable mechanisms to reduce odor nuisance potential from emissions associated with oil and gas production facility operations and also updates rule language to promote clarity, consistency and enforceability. The proposed amendment: requires use of odor mitigation best practices; requires facilities located within 1,500 feet of a sensitive receptor to conduct and submit a specific cause analysis for any confirmed odor event; and requires facilities with continuing odor issues to develop and implement an approved Odor Mitigation Plan. (Reviewed: Stationary Source Committee, February 20 and April 17, 2015)

¹ Note: At the April 3, 2015 Board Meeting, the Board set a public hearing for June 5, 2015 to Adopt Proposed Amended Rules 212, 1401, 1401.1 and 1402.

(B) Amend Rule 1148.2 - Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers

Chang/3186

Rule 1148.2 was adopted April 5, 2013 to establish requirements for owners or operators of oil and gas wells to notify the Executive Officer when conducting well drilling, well reworking, hydraulic fracturing, and other well production stimulation activities. The rule also includes reporting requirements for operators and chemical suppliers to report trade secret and non-trade secret chemicals used. The California Department of Conservation, through its Division of Oil, Gas, and Geothermal Resources (DOGGR) has approved Well Stimulation Treatment Regulations in response to the passage of SB 4 on December 30, 2014. Chemical reporting requirements for chemicals claimed as trade secret are different between the new DOGGR regulation and Rule 1148.2. Proposed Amended Rule 1148.2 includes revisions to the chemical reporting requirements to be consistent with DOGGR's regulation. (Reviewed: Stationary Source Committee, April 17, 2015)

Budget/Fiscal Impact

3. Develop and Demonstrate Fuel Cell Hybrid Electric Medium-Duty Trucks **E**

Miyasato/3249

The Center for Transportation and the Environment (CTE) was awarded \$2,982,071 by DOE and \$1,100,000 by CEC to develop and demonstrate fuel cell hybrid electric medium-duty trucks. CTE and their partner UPS propose to demonstrate up to six trucks in Los Angeles and Orange counties. This action is to execute a contract with CTE to develop and demonstrate fuel cell hybrid electric medium-duty trucks in an amount not to exceed \$980,000 from the Clean Fuels Fund (31). (Reviewed: Technology Committee, April 17, 2015; Recommended for Approval)

4. Execute Contract to Construct, Operate and Maintain Fast-Fill Public Access CNG Fueling Station at SCAQMD Headquarters and Authorize Property Usage Agreement **E**

Miyasato/3249

On December 6, 2014, the Board issued an RFP to solicit bids for an independent contractor to upgrade, operate and maintain a fast-fill public access CNG fueling station at SCAQMD Headquarters. Two bids were received that would meet current and future CNG fueling needs for the SCAQMD's natural gas fleet and the public. Staff recommends an award to the lowest cost qualified bidder. This action is to execute a contract as well as a property usage agreement with FirstCNG, LLC for a five-year term, with a renewal option for an additional five years. This action is to also augment the existing contract at a cost not to exceed \$75,000 with Trillium CNG to continue operating and maintaining the existing station. Additionally, existing CNG fueling station equipment will be surplussed and any residual value received into the Fast-Fill CNG Fueling Station Enterprise Fund (71). (Reviewed: Technology Committee, April 17, 2015; Recommended for approval with direction to staff to have further discussion with the Executive Officer and Chair about relocating the station.)

5. Issue RFP for CEQA Documentation Support to Prepare Program Environmental Impact Report for 2016 AQMP and Other CEQA-related Activities **Fine/2239**

The SCAQMD requires additional resources to assist with CEQA-related activities for preparation of the 2016 AQMP Program Environmental Impact Report (EIR). This action is to issue an RFP to select one or more qualified contractors experienced in CEQA analysis and EIR preparation to assist staff with these activities. Funds for this proposal in an amount not to exceed \$125,000 are included in the Proposed FY 2015-16 Budget. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

6. Recognize Revenue and Appropriate Funds for PM2.5 Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment and CNG Vehicle **Tisopulos/3123**

U.S. EPA has allocated Section 103 funds in the amount of \$762,160 for the PM2.5 Program. This action is to recognize revenue and appropriate funds for the PM2.5 Monitoring Program and issue purchase orders for air monitoring equipment and one CNG vehicle. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

7. Execute Lease Contract for Mailing Equipment **Johnson/3018**

On January 9, 2015, the Board approved the release of an RFQ to solicit lease proposals to replace the mailroom's United States Postal Service-compliant mailing system and to lease additional equipment for folding, inserting, and addressing mail. This action is to execute a five-year lease agreement with Neopost Southwest District for the proposed mailing equipment. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

8. Establish New Classification of Career Development Intern **Johnson/3018**

At its March 13, 2015 meeting, the Administrative Committee approved a proposal to establish a new program at SCAQMD to expose young adults (particularly those emancipated from the foster care system) to career opportunities, and assist them in gaining skills and knowledge necessary to compete for full-time employment. This action is to add the new classification of Career Development Intern; adopt the class specification; and adopt the resolution amending the Salary Resolution. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

9. Issue RFP for Evaluation and Improvement of SCAQMD's Website **Marlia/3148**

On April 6, 2012, the Board approved a contract for the redesign of SCAQMD's website and the implementation of Web Content Management software. The redesigned and reorganized website, deployed on May 28, 2014, provides access to all of SCAQMD's web-based content and incorporates a responsive design for mobile device viewing. This action is to issue an RFP to solicit bids from qualified firms to evaluate the current website, make recommendations for improvement and, upon approval, implement those improvements. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

10. Appointment of Members to SCAQMD Hearing Board **McDaniel/2821**

The terms of office for the Hearing Board Attorney Member and Engineer Member, and their Alternates, expire June 30, 2015. An Advisory Committee was appointed as required by law. The Advisory Committee interviewed attorney member and engineer member candidates at its meeting on March 27, 2015, and made its recommendations to the Administrative Committee. The Administrative Committee interviewed candidates at its meeting on April 3, 2015, and made a final recommendation. This action is to appoint members to fill the new terms. (Reviewed: Administrative Committee, April 3, 2015; Recommended for Approval)

11. Issue Solicitations Approved by MSRC **Pettis/**

As part of their FYs 2014-16 AB 2766 Discretionary Fund Work Program, the MSRC approved the release of Program Announcements for the Alternative Fuel Infrastructure, Local Government Match, and Major Event Center Transportation Programs, as well as a Request for Proposals for MSRC Programmatic Outreach Services for January 2016 through December 2017. At this time the MSRC seeks Board approval to release the solicitations. (Reviewed: Mobile Source Air Pollution Reduction Review Committee, April 16, 2015; Recommended for Approval)

Items 12 through 18 - Information Only/Receive and File

12. Legislative and Public Affairs Report **Smith/3242**

This report highlights the March 2015 outreach activities of Legislative and Public Affairs, which include: Environmental Justice Update, Community Events/Public Meetings, Business Assistance, and Outreach to Business and Federal, State, and Local Government. (No Committee Review)

13. Hearing Board Report **Camarena/2500**

This reports the actions taken by the Hearing Board during the period of March 1 through March 31, 2015. (No Committee Review)

14. **Civil Filings and Civil Penalties Report** **Wiese/3460**

This reports the monthly penalties from March 1 through March 31, 2015, and legal actions filed by the General Counsel's Office from March 1 through March 31, 2015. An Index of District Rules is attached with the penalty report. (Reviewed: Stationary Source Committee, April 17, 2015)

15. **Lead Agency Projects and Environmental Documents Received by SCAQMD** **Chang/3186**

This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between March 1, 2015 and March 31, 2015, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA. (Reviewed: Mobile Source Committee, April 17, 2015)

16. **Rule and Control Measure Forecast** **Chang/3186**

This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for the year 2015. (No Committee Review)

17. **Report of RFQs Scheduled for Release in May** **O'Kelly/2828**

This report summarizes the RFQs for budgeted services over \$75,000 scheduled to be released for advertisement for the month of May. (Reviewed: Administrative Committee, April 10, 2015; Recommended for Approval)

18. **Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15** **Marlia/3148**

Information Management is responsible for data systems management services in support of all SCAQMD operations. This action is to provide the monthly status report on major automation contracts and projects to be initiated by Information Management during the last six months of FY 2014-15. (No Committee Review)

19. **Items Deferred from Consent Calendar**

BOARD CALENDAR

20. Administrative Committee (Receive & File) **Chair: Burke** **Wallerstein/3131**

21. Legislative Committee (Receive & File) **Chair: Mitchell** **Smith/3242**

Receive and file; and take the following actions as recommended:

Agenda Item	Recommendation
H.R. 1308 (Lowenthal) Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act	Support
SB 513 (Beall) Carl Moyer Memorial Air Quality Standards Attainment Program	Support
SB 350 (De León and Leno) Clean Energy and Pollution Reduction Act of 2015	Actively Monitor
AB 335 (Patterson) Air Quality: Minor Violations	Oppose*

*At their April 3, 2015 meeting, the Board was unable to act on the Legislative Committee's recommendation to oppose AB 335 due to a lack of at least 7 votes in support or in opposition to the recommendation. By operation of the Board's procedures, this bill was continued and re-agendized for the May Board meeting.

22. Mobile Source Committee (Receive & File) **Chair: Parker** **Chang/3186**

23. Stationary Source Committee (Receive & File) **Chair: Yates** **Nazemi/2662**

24. Technology Committee (Receive & File) **Chair: J. Benoit** **Miyasato/3249**

25. Mobile Source Air Pollution Reduction Review Committee (Receive & File) **Board Liaison: Antonovich** **Hogo/3184**

26. California Air Resources Board Monthly Report (Receive & File) **Board Rep: Mitchell** **McDaniel/2500**

Staff Presentation/Board Discussion

27. Annual Meeting of Brain & Lung Tumor and Air Pollution Foundation (***Continued from April 3, 2015 Meeting***) **Wiese/3460**

This item is to conduct the annual meeting of the Brain & Lung Tumor and Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a financial report. (No Committee Review)

28. Final MATES IV Report **Fine/2239**

The Multiple Air Toxics Exposure Study IV (MATES IV) is a monitoring and evaluation study conducted in the South Coast Air Basin (Basin). The study is a follow-up to previous air toxics studies in the Basin and is part of the South Coast Air Quality Management District Board Environmental Justice Initiative. The MATES IV Study consists of several elements. These include a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. The study focuses on the carcinogenic risk from exposure to air toxics. Compared to previous studies of air toxics in the Basin, this study found decreasing air toxics exposure, with the estimated Basin-wide population-weighted risk down by over 50% from the analysis done for the MATES III time period. (Initial Board Review of Draft Report, October 3, 2014; Final Report, No Committee Review)

29. Draft 2016 AQMP White Papers on Particulate Matter Controls and Volatile Organic Compound Controls **Fine/2239**

Draft white papers have been prepared on particulate matter (PM) controls and volatile organic compound (VOC) controls, including the influence of VOCs on ozone and PM2.5 formation and recommended approaches to develop their attainment strategies. (Reviewed: Mobile Source Committee, April 17, 2015)

PUBLIC HEARINGS

30. Adopt Executive Officer's FY 2015-16 SCAQMD Budget and Work Program and Authorize Mid-Year Budget Adjustments, Transfers, Purchase of Vehicles, and Hearing Board Compensation **O'Kelly/2828**

The Executive Officer's Budget and Work Program for FY 2015-16 represents the input over the past several months from Board members, staff, and the public. This action requests the required appropriations and reserves necessary to adopt the proposed budget, including the approval of the SCAQMD FY 2015-16 Goals and Priority Objectives. The proposed budget incorporates the CPI adjustment pursuant to Rule 320 as well as the second year phase-in of the additional 3% increase to Annual Operating Permit Renewal and Permit Processing Fees to better align program costs with revenues. This action also includes requests for mid-year budget adjustments, a transfer to the Infrastructure Improvement Fund, the purchase of vehicles, and a change to Hearing Board compensation. (Reviewed: Budget Study Session, April 10, 2015)

31. Amend Rule 2202 Employee Commute Reduction Program Guidelines **Chang/3186**

Amendments are proposed to the Rule 2202 Employee Commute Reduction Program Guidelines to streamline the annual reporting process and to incentivize better program performance. The proposal also provides administrative clarifications to address issues raised by stakeholders. This action is to adopt the resolution: 1) Certifying the Final Environmental Assessment for Proposed Amended Rule 2202 Employee Commute Reduction Program Guidelines; and 2) Amending Rule 2202 Employee Commute Reduction Program Guidelines. (Reviewed: Mobile Source Committee, March 20, 2015)

32. Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects **Hogo/3184**

The Los Angeles Department of Water and Power and Southern California Edison submitted an application under Rule 2202(f)(6) to generate emissions credits from the use of electric vehicle charging stations located at non-residential locations. The emissions credits would be used for compliance purposes under Rule 2202. At this time, there is no protocol that can be readily used to approve the application request. Under Rule 2202(f)(6), an emissions reduction quantification protocol must be developed and approved by the SCAQMD prior to approval of the application. Staff developed a quantification protocol that underwent a public process including an environmental review for the SCAQMD Board's consideration. This action is to adopt the resolution: 1) Certifying the Final Environmental Assessment; and 2) Adopting Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects. (Reviewed: Mobile Source Committee, October 17, 2014 and March 20, 2015)

PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3)

BOARD MEMBER TRAVEL – (No Written Material)

Board member travel reports have been filed with the Clerk of the Boards, and copies are available upon request.

CONFLICT OF INTEREST DISCLOSURES – (No Written Material)

Under the approval authority of the Executive Officer, the District will enter into a contract (Contract No. C15613) with Southern California Association of Governments and with the City of Burbank (Contract No. 15599). The contractors are potential sources of income for Governing Board Member Joseph Lyou, which qualify for the remote interest exception of Section 1090 of the California Government Code. Dr. Lyou abstained from any participation in the making of the contracts.

CLOSED SESSION - (No Written Material)

Wiese/3460

It is necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the SCAQMD is a party. The actions are:

- California Nozzle Specialists, Inc. v. SCAQMD, Los Angeles County Superior Court Case No. BS152037 (Public Records Act);
- CBE, CCAT v. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-72358 (1315);
- Communities for a Better Environment, et al. v. U.S. EPA, et al., U.S. Court of Appeals, Ninth Circuit, Case No. 13-70167 (Sentinel);
- People of the State of California, ex rel SCAQMD v. Exide Technologies, Inc., Los Angeles Superior Court Case No. BC533528;
- In the Matter of SCAQMD v. Exide Technologies, Inc., SCAQMD Hearing Board Case No. 3151-29 (Order for Abatement);
- Exide Technologies, Inc., Petition for Variance, SCAQMD Hearing Board Case No. 3151-31;
- In re: Exide Technologies, Inc., U.S. Bankruptcy Court for the District of Delaware Case No. 13-11482 (KJC) (Bankruptcy case);
- Fast Lane Transportation, Inc. et al. v. City of Los Angeles, et al., Contra Costa County Superior Court Case No. MSN14-0300 (formerly South Coast Air Quality Management District v. City of Los Angeles, et al., Los Angeles Superior Court Case No. BS 143381) (SCIG);
- Friends of the Eel River v. North Coast Railway Authority, California Supreme Court Case No. S222472 (amicus brief);

- Friends of the Fire Rings v. SCAQMD, San Diego Superior Court, North County, Case No. 37-2014-00008860-CU-WM-NC (Nov. 26, 2013; transferred March 20, 2014);
- NRDC v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 13-70544 (Rule 317);
- Petition for Declaratory Order by U.S. Environmental Protection Agency, Surface Transportation Board Docket No. FD 35803 (Railroad Rules) and SCAQMD v. STB, et al., U.S. Court of Appeals, Ninth Circuit, Case No. 15-70609 (appeal of STB Decision);
- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 12-70079 (PM2.5);
- Physicians for Social Responsibility, et al. v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 14-73362 (1-Hour ozone);
- SCAQMD v. U.S. EPA, U.S. Court of Appeals, Ninth Circuit, Case No. 13-73936 (Morongo Redesignation);
- Sierra Club v. County of Fresno, California Supreme Court Case No. S219783 (amicus brief);
- Sierra Club, et al. v. U.S. EPA, U.S. District Court for Northern District of California Case No. 3:14-CV-04596 (PM2.5 designation to serious); and
- WildEarth Guardians v. U.S. EPA, D.C. Circuit Court Case No. 14-1145 (PM2.5 moderate designation).

It is also necessary for the Board to recess to closed session pursuant to Government Code section 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (three cases) and pursuant to Government Code section 54956.9(b) due to significant exposure to litigation (one case).

In addition, it is necessary for the Board to recess to closed session pursuant to Government Code section 54957.6 to confer regarding upcoming labor negotiations with:

- designated representatives regarding represented employee salaries and benefits or other mandatory subjects within the scope of representation [Negotiator: William Johnson; Represented Employees: SCAQMD Professional Employees Association].

ADJOURNMENT

*****PUBLIC COMMENTS*****

Members of the public are afforded an opportunity to speak on any listed item before or during consideration of that item. Please notify the Clerk of the Board, (909) 396-2500, if you wish to do so. All agendas are posted at SCAQMD Headquarters, 21865 Copley Drive, Diamond Bar, California, at least 72 hours in advance of the meeting. At the end of the agenda, an opportunity is also provided for the public to speak on any subject within the SCAQMD's authority. Speakers may be limited to three (3) minutes each.

Note that on items listed on the Consent Calendar and the balance of the agenda any motion, including action, can be taken (consideration is not limited to listed recommended actions). Additional matters can be added and action taken by two-thirds vote, or in the case of an emergency, by a majority vote. Matters raised under Public Comments may not be acted upon at that meeting other than as provided above.

Written comments will be accepted by the Board and made part of the record, provided 25 copies are presented to the Clerk of the Board. Electronic submittals to cob@aqmd.gov of 10 pages or less including attachment, in MS WORD, plain or HTML format will also be accepted by the Board and made part of the record if received no later than 5:00 p.m., on the Tuesday prior to the Board meeting.

ACRONYMS

AQIP = Air Quality Investment Program	NGV = Natural Gas Vehicle
AVR = Average Vehicle Ridership	NO _x = Oxides of Nitrogen
BACT = Best Available Control Technology	NSPS = New Source Performance Standards
Cal/EPA = California Environmental Protection Agency	NSR = New Source Review
CARB = California Air Resources Board	PAMS = Photochemical Assessment Monitoring Stations
CEMS = Continuous Emissions Monitoring Systems	PAR = Proposed Amended Rule
CEC = California Energy Commission	PEV = Plug-In Electric Vehicle
CEQA = California Environmental Quality Act	PHEV = Plug-In Hybrid Electric Vehicle
CE-CERT =College of Engineering-Center for Environmental Research and Technology	PM ₁₀ = Particulate Matter ≤ 10 microns
CNG = Compressed Natural Gas	PM _{2.5} = Particulate Matter ≤ 2.5 microns
CO = Carbon Monoxide	PON = Public Opportunity Notice
CTG = Control Techniques Guideline	PR = Proposed Rule
DOE = Department of Energy	RFP = Request for Proposals
EV = Electric Vehicle	RFQ = Request for Quotations
FY = Fiscal Year	SCAG = Southern California Association of Governments
GHG = Greenhouse Gas	SIP = State Implementation Plan
HRA = Health Risk Assessment	SO _x = Oxides of Sulfur
IAIC = Interagency AQMP Implementation Committee	SOON = Surplus Off-Road Opt-In for NO _x
LEV = Low Emission Vehicle	SULEV = Super Ultra Low Emission Vehicle
LNG = Liquefied Natural Gas	TCM = Transportation Control Measure
MATES = Multiple Air Toxics Exposure Study	ULEV = Ultra Low Emission Vehicle
MOU = Memorandum of Understanding	U.S. EPA = United States Environmental Protection Agency
MSERCs = Mobile Source Emission Reduction Credits	VOC = Volatile Organic Compound
MSRC = Mobile Source (Air Pollution Reduction) Review Committee	VMT = Vehicle Miles Traveled
NATTS =National Air Toxics Trends Station	ZEV = Zero Emission Vehicle
NESHAPS = National Emission Standards for Hazardous Air Pollutants	

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 1

MINUTES: Governing Board Monthly Meeting

SYNOPSIS: Attached are the Minutes of the April 3, 2015 meeting.

RECOMMENDED ACTION:

Approve Minutes of the April 3, 2015 Board Meeting.

Sandra McDaniel,
Clerk of the Boards

SM:dg

FRIDAY, APRIL 3, 2015

Notice having been duly given, the regular meeting of the South Coast Air Quality Management District Board was held at District Headquarters, 21865 Copley Drive, Diamond Bar, California. Members present:

William A. Burke, Ed.D., Chairman
Speaker of the Assembly Appointee

Mayor Dennis R. Yates, Vice Chairman
Cities of San Bernardino County

Mayor Michael D. Antonovich
County of Los Angeles

Mayor Ben Benoit
Cities of Riverside County

Supervisor John J. Benoit
County of Riverside

Councilmember Michael A. Cacciotti
Cities of Los Angeles County – Eastern Region

Dr. Joseph K. Lyou
Governor's Appointee

Councilmember Judith Mitchell
Cities of Los Angeles County – Western Region

Supervisor Shawn Nelson (arrived at 9:55 a.m.)
County of Orange

Dr. Clark E. Parker, Sr.
Senate Rules Committee Appointee

Mayor Miguel A. Pulido (left at 10:45 a.m.)
Cities of Orange County

Supervisor Janice Rutherford
County of San Bernardino

Member absent:

Councilmember Joe Buscaino
City of Los Angeles

CALL TO ORDER: Chairman Burke called the meeting to order at 9:10 a.m.

- Pledge of Allegiance: Led by Councilmember Mitchell.
- Opening Comments

Councilmember Mitchell. Announced that she attended the opening of the SCAQMD's hydrogen fuel station on March 25, 2015, and highlighted the technology in place that allows for the use a credit card to purchase fuel. She noted that CARB will be releasing the draft Sustainable Freight Strategy on their website on April 3 and written comments are welcomed in the coming weeks prior to the item being agendized at their April 23 CARB meeting.

Dr. Parker. Noted that at the recent fuel station opening he had the opportunity to drive the new Toyota vehicle and announced that another station will be opening in West Los Angeles within the next month. He noted that he has been selected as Chairman of the CaFCP starting in 2016, and he looks forward to serving in that capacity.

Councilmember Cacciotti. Explained that he recently had the battery in his hybrid vehicle repaired at a shop in Westminster where they utilize cells from batteries from damaged vehicles as an alternative to replacing the entire battery.

Mayor Yates. Announced that he attended the ribbon cutting for Waste Management's new CNG fueling station in the city of Chino; and noted the advertised rate was \$2.21 per gallon.

Chairman Burke. Noted the success of an SCAQMD hosted-event *Cesar Chavez – Day of Remembrance* held on March 28, 2015 at University of Southern California (USC), which provided great insight into the life of Cesar Chavez.

Dr. Wallerstein. 1) Explained that the Board Members received copies of three draft AQMP White Papers to set the overall framework of the upcoming 2016 AQMP, and noted that these documents will be made available online and provided to the AQMP working group. 2) Noted that the set hearing for Amendments to Rules 212, 1401, 1401.1 and 1402 is being requested for a 60 day set hearing, to be heard at the June 5, 2015 Board Meeting. 3) Introduced a new video "Do 1 Thing" related to air quality and health that staff and Councilman Cacciotti worked together to create.

- Presentation of Retirement Awards to Peter Greenwald, Bing Ocampo, Shashi Singeetham, and Susan Snyder

Chairman Burke presented a retirement award to Peter Greenwald, Senior Policy Advisor, in recognition of 32 years of dedicated District service; to Susan Snyder, Supervising Payroll Technician, in recognition of 37 years of dedicated District service; to Shashi Singeetham, Air Quality Specialist, in recognition of 24 years of dedicated District service; and to Bing Ocampo, Executive Secretary, in recognition of 24 years of dedicated District service.

(Supervisor Nelson arrived at 9:55 a.m.)

- Opening Comments (cont'd)

Councilmember Mitchell. Introduced graduate students from USC who were visiting to tour the District facility and learn more about the SCAQMD's mission. Professor of Public Policy Frank Zerunyan and students from the program commented on the focus of their studies and expressed appreciation for the invitation to learn more about the District.

- Children's Health Study Update: Did Cleaner Air Lead to Better Health?

Dr. Edward Avol, Professor of Clinical Preventive Medicine, USC Keck School of Medicine, gave a presentation regarding a health study that measured the effect of outdoor air pollution on health in children living throughout Southern California.

Dr. Lyou and Chairman Burke thanked Dr. Avol for his work on the study and offered a partnership with the SCAQMD in furthering these important types of studies and analyses.




In response to Supervisor Benoit's inquiry as to whether there is a current group of children being studied, Dr. Avol responded that the current study group is preparing to graduate from high school and that there is no new group being studied, as resources for a similar study are limited.

CONSENT CALENDAR

1. Approve Minutes of March 6, 2015 Board Meeting

2. Set Public Hearings May 1, 2015 to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations
 - (A) Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
 - (B) Amend Rule 2202 Employee Commute Reduction Program Guidelines
 - (C) Amend Rules 212, 1401, 1401.1 and 1402

Budget/Fiscal Impact

3. Recognize and Transfer Funds and Execute Contracts to Develop and Demonstrate Warehouse Rooftop Solar Systems, Energy Storage and EV Charging 
4. Cosponsor Regional Universities for U.S. DOE EcoCAR 3 Competition and Solar Decathlon 
5. Recognize Funds and Issue Program Announcement for Heavy-Duty Vehicle and Transport Refrigeration Unit Engine Replacement Projects 
6. Adopt Resolution Recognizing Funds and Accepting Terms and Conditions for FY 2013-14 Carl Moyer Multidistrict Program Award and Issue Program Announcement for Carl Moyer Multidistrict Program
7. Amend Contracts to Provide Short- and Long-Term Systems Development, Maintenance and Support Services
8. Issue RFP for Purchase of Audio Visual Enhancements for Conference Room GB and Hearing Board Room
9. Execute Replacement Contract for Refurbishment of Elevator Cab Interiors at Diamond Bar Headquarters
10. Execute Contract for Independent Audit Services for FYs Ending June 30, 2015 and 2016

11. Remove Various Fixed Assets from SCAQMD Inventory
12. Approve Compensation Adjustments for Board Member Assistants/Consultants and Revisions to Board Member Assistant and Board Member Consultant Policy

Items 13 through 18 - Information Only/Receive and File

13. Legislative and Public Affairs Report
14. Hearing Board Report
15. Civil Filings and Civil Penalties Report
16. Lead Agency Projects and Environmental Documents Received by SCAQMD
17. Rule and Control Measure Forecast
18. Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15

Dr. Lyou announced his abstention on Item No. 3 because Transportation Power is a potential source of income to him, and on Item No. 4 because Southern California Edison is a potential source of income to him. Mayor Pulido announced his abstention on Item No. 4 because of a campaign contribution from Southern California Edison.

Agenda Items 2C, 3, 12, 13, 16, 17, and 18 were withheld for comment and discussion.

MOVED BY CACCOTTI, SECONDED BY J. BENOIT, AGENDA ITEMS 1, 2A, 2B, 4 THROUGH 11, 14 AND 15 APPROVED AS RECOMMENDED, ADOPTING RESOLUTION NO. 15-8 RECOGNIZING FUNDS AND ACCEPTING THE TERMS AND CONDITIONS OF THE FY 2013-14 CARL MOYER PROGRAM MULTIDISTRICT AWARD, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou (*except Item #4*), Mitchell, Nelson, Parker, Pulido (*except Item #4*), Rutherford and Yates.

NOES: None.

ABSTAIN: Lyou and Pulido (*Item #4 only*).

ABSENT: Buscaino.

19. Items Deferred from Consent Calendar -

- 2C. Set Public Hearing **June 5, 2015** to Consider Amendments to Rules 212, 1401, 1401.1 and 1402

The following individuals addressed the Board on Item 2C.

Bill LaMarr, California Small Business Alliance, and Susan Stark, California Council for Environmental and Economic Balance (CCEEB), expressed support for extending the comment periods for the proposed amendments so that all stakeholders can fully participate in the process.


Curtis Coleman, Southern California Air Quality Alliance, noted concern that the amendments have not been before the Stationary Source Committee; and commented that additional time before the hearing will allow for other concerns to be addressed.

MOVED BY CACCIOTTI, SECONDED BY B. BENOIT, AGENDA ITEM 2C APPROVED AS REVISED AND RECOMMENDED BY STAFF, SETTING A PUBLIC HEARING FOR JUNE 5, 2015 TO AMEND RULES 212, 1401, 1401.1, AND 1402, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino.

3. Recognize and Transfer Funds and Execute Contracts to Develop and Demonstrate Warehouse Rooftop Solar Systems, Energy Storage and EV Charging 

In response to Councilman Cacciotti's request for an update on the zero-emissions corridor, Dr. Matt Miyasato, DEO/Science and Technology Advancement, noted that construction of the test track in the city of Carson is underway and is expected to be completed by year-end, with testing to begin in early 2016.

MOVED BY CACCIOTTI, SECONDED BY MITCHELL, AGENDA ITEM 3 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, Rutherford and Yates.

NOES: None.

ABSTAIN: Lyou.

ABSENT: Buscaino.

12. Approve Compensation Adjustments for Board Member Assistants/Consultants and Revisions to Board Member Assistant and Board Member Consultant Policy

Supervisor Nelson requested that staff look into the possibility of redistributing or providing additional compensation to those Board Assistants and Consultants whose Board Member serves on multiple committees which results in an increased workload.

MOVED BY NELSON, SECONDED BY PARKER, AGENDA ITEM 12 APPROVED AS RECOMMENDED, WITH THE DIRECTION TO STAFF TO LOOK AT REALLOCATION OF RESOURCES FOR THE BOARD MEMBER ASSISTANTS AND CONSULTANTS OF THOSE BOARD MEMBERS WHO SERVE ON MULTIPLE COMMITTEES, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino.

13. Legislative and Public Affairs Report

The member of the public who submitted a request to speak on this item, waived their comment.

MOVED BY LYOU, SECONDED BY CACCIOTTI, AGENDA ITEM 13 APPROVED AS RECOMMENDED, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Pulido, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino.

(Mayor Pulido left at 10:45 a.m.)

16. Lead Agency Projects and Environmental Documents Received by SCAQMD

Dr. Tom Williams, Sierra Club, noted that comments on the L.A. City Mobility Plan EIR are due on April 16, 2015, and questioned whether staff has received the Plan.

Dr. Lyou inquired if staff did receive the Mobility Plan and whether or not they have provided comments on it.

17. Rule and Control Measure Forecast

Dr. Tom Williams, Sierra Club, expressed concern regarding Rule 1148.2 expiring prior to the hearing of rule amendments to extend the regulation.

Dr. Elaine Chang, DEO/Planning and Rules, noted that while a portion of the rule regarding equipment reporting sunsets this month, the notification and chemical reporting requirements are still in place. She added that staff will report to the Stationary Source Committee regarding 1148.2 at their June meeting.

18. Status Report on Major Projects for Information Management Scheduled to Start During Last Six Months of FY 2014-15

Dr. Tom Williams, Sierra Club, commended the SCAQMD Information Technology department for the work they have done on notices and reporting to the public.

MOVED BY CACCIOTTI, SECONDED BY
J. BENOIT, AGENDA ITEMS 16 THROUGH
18 APPROVED AS RECOMMENDED, BY
THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit,
Burke, Cacciotti, Lyou, Mitchell,
Nelson, Parker, Rutherford and
Yates.

NOES: None.

ABSENT: Buscaino and Pulido.

BOARD CALENDAR

- 20. Administrative Committee
- 21. Legislative Committee
- 22. Mobile Source Committee
- 23. Technology Committee
- 24. Mobile Source Air Pollution Reduction Review Committee

MOVED BY CACCIOTI, SECONDED BY MITCHELL, AGENDA ITEMS 20 AND 22 THROUGH 24 APPROVED AS RECOMMENDED, RECEIVING AND FILING THE COMMITTEE AND MSRC REPORTS, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino and Pulido.

21. Legislative Committee

Supervisor Nelson expressed concern with opposing AB 335 which would provide a business with the opportunity to correct a minor offense after receiving a citation.

Supervisor Rutherford noted that after the March 13th Committee Meeting, she researched the bill further, which prompts her to want to change her vote to not oppose the bill.

Councilwoman Mitchell, Chair of the Legislative Committee, explained that her position to oppose the bill is based on the concern that the legislation will likely bring about disputes as to what constitutes a minor violation, which could tie up valuable resources.

Barbara Baird, Chief Deputy Counsel, commented that SCAQMD does have a Notice to Comply program, which provides businesses an opportunity to correct the violation within a given period of time to avoid any penalties or further action. She agreed with Councilwoman Mitchell that there is the potential for disagreement between what would warrant a Notice to Comply as opposed to a Notice of Violation, adding that additional concerns relate to chronic violators and possibly taking away the incentive for a facility to achieve compliance from the start.

SUPERVISOR NELSON MOVED TO ADOPT A POSITION OF SUPPORT AS TO AB 335 (PATTERSON) AIR QUALITY: MINOR VIOLATIONS. THE MOTION WAS SECONDED BY SUPERVISOR RUTHERFORD, BUT FAILED BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit,
Nelson and Rutherford.

NOES: Burke, Cacciotti, Lyou, Mitchell,
Parker and Yates.

ABSENT: Buscaino and Pulido.

CHAIRMAN BURKE CALLED FOR A VOTE ON
THE COMMITTEE RECOMMENDATION TO
ADOPT A POSITION OF "OPPOSE" AS TO
AB 335 (PATTERSON) AIR QUALITY: MINOR
VIOLATIONS, WHICH FAILED, FOR A LACK
OF SEVEN CONCURRING VOTES, AS
FOLLOWS:

AYES: Burke, Cacciotti, Lyou, Mitchell,
Parker and Yates.

NOES: Antonovich, B. Benoit, J. Benoit,
Nelson and Rutherford.

ABSENT: Buscaino and Pulido.

There being no action taken as to a position on AB 335, the item was, by operation of procedures, continued to the May 1, 2015 meeting.

Dr. Lyou suggested a minor amendment on AB 678 so that the last line of the second bullet item at the top of page 6 of the Committee report reads "and battery electric **and fuel cell** trucks." He also suggested a position of support be taken on SB 350 to support additional renewable energy, reduce petroleum fuel usage, and increase energy efficiency in buildings, which was reviewed by the Legislative Committee who did not recommend a position.

Kurt Wiese, General Counsel, noted that since SB 350 is not listed on the agenda, the Board could not take action on it at today's meeting.

Councilwoman Mitchell commented that the Committee chose to monitor the progress of SB 350, rather than take a position at the present time.

Dr. Wallerstein recommended that the "Receive and File" language on the agenda be revised so that the Board may take action on items that Committee has considered.

MOVED BY LYOU, SECONDED BY MITCHELL, AGENDA ITEM 21 APPROVED, RECEIVING AND FILING THE LEGISLATIVE COMMITTEE REPORT AND ADOPTING A POSITION OF "SUPPORT WITH AMENDMENTS" FOR AB 678 ONLY, WITH A MODIFICATION TO THE SUGGESTED AMENDMENTS AS NOTED BELOW, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino and Pulido.

**Suggested amendment to AB 678 (O'Donnell)
Greenhouse Gases: Energy Efficient Ports Program:**

- Page 2 Line 6: "and investments at public ports that help reduce criteria pollutant, toxic, and greenhouse gas emissions."


Page 2 Line 13: "(3) Installation of cold ironing/shorepower infrastructure at the ports, beyond actions currently required by existing regulations, to facilitate reduced emissions from diesel auxiliary engines on container, passenger, and refrigerated cargo ships while berthing at a California port. (4) Deployment of zero and near-zero emission vehicle and infrastructure technologies, including, but not limited to: stationary fuel cells, energy storage and battery electric **and fuel cell** trucks."

Staff Presentation/Board Discussion

25. Annual Meeting of Brain & Lung Tumor and Air Pollution Foundation

AT STAFF'S RECOMMENDATION AND WITH THE CHAIRMAN'S CONCURRENCE, THIS ITEM WAS CARRIED OVER TO THE MAY 1, 2015 MEETING AGENDA.

PUBLIC HEARINGS

26. Approve and Adopt Technology Advancement Office Clean Fuels Program Annual Report and Plan Update and Resolution and Receive and File Revised Membership of Technology Advancement Advisory Group  ***(Continued from March 6, 2015 Board Meeting)***

Dr. Matt Miyasato, DEO/Science and Technology Advancement, gave the staff presentation.

The public hearing was opened, and there being no requests to speak, the public hearing was closed.

In response to Councilman Cacciotti's inquiry about the status of the electric drayage trucks and what their range is proving to be, Dr. Miyasato explained that the trucks are being designed with a range of about 80 miles, depending on load.

Dr. Lyou encouraged staff to include a summary of the report and potentially also provide a matrix-type reference to facilitate easier review of the voluminous report.

Dr. Burke expressed concern that certain projects that have the potential to have an impact on air quality and would benefit from receiving grant funding are being overlooked.

MOVED BY LYOU, SECONDED BY CACCIOTTI, AGENDA ITEM NO. 26 APPROVED AS RECOMMENDED BY STAFF, ADOPTING RESOLUTION NO. 15-9, APPROVING THE TECHNOLOGY ADVANCEMENT OFFICE CLEAN FUELS PROGRAM ANNUAL REPORT FOR 2014 AND ADOPTING THE CLEAN FUELS PROGRAM PLAN UPDATE FOR 2015, BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Rutherford and Yates.

NOES: None.

ABSENT: Buscaino, Parker and Pulido.

27. Amend Regulation IX - Standards of Performance for New Stationary Sources and Regulation X - National Emission Standards for Hazardous Air Pollutants

Staff waived the oral presentation on Agenda Item 27.

The public hearing was opened, and there being no requests to speak, the public hearing was closed.

MOVED BY MITCHELL, SECONDED BY CACCIOTTI, AGENDA ITEM NO. 27 APPROVED AS RECOMMENDED BY STAFF, ADOPTING RESOLUTION NO. 15-10, DETERMINING THAT THE PROPOSED AMENDMENTS TO REGULATIONS IX AND X ARE EXEMPT FROM THE REQUIREMENTS OF CEQA, AND AMENDING REGULATIONS IX AND X, BY THE FOLLOWING VOTE:

AYES: B. Benoit, J. Benoit, Burke, Cacciotti, Lyou, Mitchell, Nelson, Parker, Rutherford and Yates.

NOES: None.

ABSENT: Antonovich, Buscaino and Pulido.

28. Receive Public Input on Executive Officer's Draft Goals and Priority Objectives for FY 2015-16

Dr. Wallerstein explained that the goals and objectives document is part of the overall budget process and highlights a number of the goals and objectives for the upcoming year, as well as reports on some of the progress made on last year's goals and objectives. He added that this item provides an opportunity for comments from the public and input from Board Members prior to the May 1, 2015 Board Meeting where the Executive Officer's Budget and Work Program will be considered for adoption.

The public hearing was opened and the following individuals addressed the Board on Agenda Item 28.

DR. TOM WILLIAMS, Citizens Coalition for a Safe Community

Urged the Board to set objectives that are measurable; requested that information be made available on what has been achieved since 2012; and

stressed the importance of addressing measures to address federal and state attainment.

AURORA VASQUEZ, My Generation, Sierra Club

Urged the Board to develop a robust air quality management plan that has tangible measures and clear goals, as well as addresses the “black box”.

CURTIS COLEMAN, Southern California Air Quality Alliance

Expressed support for the proposed goals and objectives, including the proposal to implement socio-economic analysis enhancements; and urged the Board to ensure the appropriate level of staffing is maintained for timely permit processing.

There being no further public testimony on this item, the public hearing was closed.

Councilman Cacciotti recommended adding a goal to encourage the use of mass transit options.

Dr. Lyou encouraged staff to set clear objectives that are quantifiable and measurable and to place milestones by which to measure desired outcomes. He also stated concern with the work force retention and succession planning and is encouraged that those issues have been identified as key to be addressed.

Supervisor Benoit noted that if mass transit is addressed, it needs to be made clear that the District is encouraging alternative transportation usage, but not mandating it.

MOVED BY J. BENOIT, SECONDED BY
CACCIOTTI, AGENDA ITEM NO. 28
APPROVED AS RECOMMENDED BY STAFF,
BY THE FOLLOWING VOTE:

AYES: Antonovich, B. Benoit, J. Benoit,
Burke, Cacciotti, Lyou, Mitchell,
Nelson, Parker, Pulido,
Rutherford and Yates.

NOES: None.

ABSENT: Buscaino and Pulido.

PUBLIC COMMENT PERIOD – (Public Comment on Non-Agenda Items, Pursuant to Government Code Section 54954.3)

Jason Martinez, Sierra Club, stressed the importance of the development of a strong AQMP; and invited the Board Members to attend San Bernardino Valley College's Earth Day event on April 22, 2015.

Rocio Aguayo, San Bernardino Valley College student, noted multiple incidents of asthma among her family members; and urged for improved air quality for her community.

Alberto Reyes Tovar, Sierra Club, advocated for a strong AQMP that will benefit future generations.

Dr. Tom Williams, Citizens Coalition for a Safe Community and No 710 Coalition, expressed concern for the enormous negative impacts that will result from the 710 tunnel that will vent the emissions of approximately 90,000 vehicles per day into surrounding neighborhoods.

CLOSED SESSION

The Board recessed to closed session at 11:50 a.m., pursuant to Government Code sections:

- 54956.9(a) and 54956.9(d)(1) to confer with its counsel regarding pending litigation which has been initiated formally and to which the District is a party, as follows:

People of the State of California, ex rel SCAQMD v. Exide Technologies, Inc., Los Angeles Superior Court Case No. BC533528;

In the Matter of SCAQMD v. Exide Technologies, Inc., SCAQMD Hearing Board Case No. 3151-29 (Order for Abatement);

Exide Technologies, Inc., Petition for Variance, SCAQMD Hearing Board Case No. 3151-31;

In re: Exide Technologies, Inc., U.S. Bankruptcy Court for the District of Delaware Case No. 13-11482 (KJC) (Bankruptcy case); and

Sierra Club v. County of Fresno, California Supreme Court Case No. S219783 (amicus brief).

- 54956.9(a) and 54956.9(d)(4) to consider initiation of litigation (one case).

Following closed session, General Counsel Kurt Wiese announced that a report of any reportable actions taken in closed session will be filed with the Clerk of the Board and made available upon request.

ADJOURNMENT

There being no further business, the meeting was adjourned by Kurt Wiese at 12:25 p.m.

The foregoing is a true statement of the proceedings held by the South Coast Air Quality Management District Board on April 3, 2015.

Respectfully Submitted,

Altheresa Rothschild
Deputy Clerk Transcriber

Date Minutes Approved: _____

Dr. William A. Burke, Chairman

ACRONYMS

CaFCP= California Fuel Cell Partnership
CARB = California Air Resources Board
CEQA = California Environmental Quality Act
CNG = Compressed Natural Gas
DOE = Department of Energy
EIR = Environmental Impact Report
EV = Electric Vehicle
FY = Fiscal Year
MSRC = Mobile Source (Air Pollution Reduction) Review Committee
RFP = Request for Proposals
U.S. EPA = United States Environmental Protection Agency

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 2

PROPOSAL: Set Public Hearings June 5, 2015 to Consider Amendments and/or Adoption to SCAQMD Rules and Regulations:

- (A) Amend Rule 1148.1 – Oil and Gas Production Wells. The proposed amendment seeks to provide enforceable mechanisms to reduce odor nuisance potential from emissions associated with oil and gas production facility operations and also updates rule language to promote clarity, consistency and enforceability. The proposed amendment: requires use of odor mitigation best practices; requires facilities located within 1,500 feet of a sensitive receptor to conduct and submit a specific cause analysis for any confirmed odor event; and requires facilities with continuing odor issues to develop and implement an approved Odor Mitigation Plan. (Reviewed: Stationary Source Committee, February 20 and April 17, 2015)

- (B) Amend Rule 1148.2 - Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers. Rule 1148.2 was adopted April 5, 2013 to establish requirements for owners or operators of oil and gas wells to notify the Executive Officer when conducting well drilling, well reworking, hydraulic fracturing, and other well production stimulation activities. The rule also includes reporting requirements for operators and chemical suppliers to report trade secret and non-trade secret chemicals used. The California Department of Conservation, through its Division of Oil, Gas, and Geothermal Resources (DOGGR) has approved Well Stimulation Treatment Regulations in response to the passage of SB 4 on December 30, 2014. Chemical reporting requirements for chemicals claimed as trade secret are different between the new DOGGR regulation and Rule 1148.2. Proposed Amended Rule 1148.2 includes revisions to the chemical reporting requirements to be consistent with DOGGR's regulation. (Reviewed: Stationary Source Committee, April 17, 2015)

The complete text of the proposed amendments, staff reports and other supporting documents will be available from the District's Public Information Center, (909) 396-2550 and on the Internet (www.aqmd.gov) as of May 6, 2015.

RECOMMENDED ACTION:

Set public hearings June 5, 2015 to amend Rules 1148.1 and 1148.2.

Barry R. Wallerstein, D.Env.
Executive Officer

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 3

PROPOSAL: Develop and Demonstrate Fuel Cell Hybrid Electric Medium-Duty Trucks 

SYNOPSIS: The Center for Transportation and the Environment (CTE) was awarded \$2,982,071 by DOE and \$1,100,000 by CEC to develop and demonstrate fuel cell hybrid electric medium-duty trucks. CTE and their partner UPS propose to demonstrate up to six trucks in Los Angeles and Orange counties. This action is to execute a contract with CTE to develop and demonstrate fuel cell hybrid electric medium-duty trucks in an amount not to exceed \$980,000 from the Clean Fuels Fund (31).

COMMITTEE: Technology, April 17, 2015; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Chairman to execute a contract with CTE to develop and demonstrate fuel cell hybrid electric medium-duty trucks in an amount not to exceed \$980,000 from the Clean Fuels Fund (31).

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:FM:JI

Background

In June 2011, the Board approved funds for UPS to develop and demonstrate electric delivery vans. The vans were demonstrated in the South Coast Air Basin but could not meet all the range requirements of UPS for deployment on a diverse set of routes. In order to meet greater range requirements and have more route flexibility, UPS and CTE have joined together to develop an electric van with a fuel cell range extender. CTE sought and received partial funding from the DOE and CEC for the development of a fuel cell walk-in van. These vans will have a smaller battery and a small fuel cell with

hydrogen storage to meet the majority of range needs and also the ability to refuel with hydrogen quickly for longer routes.

Proposal

This project is proposed in two phases. In Phase 1, a pre-2006 model diesel-powered walk-in van provided by UPS will be converted to electric drive and then integrated with the fuel cell, power electronics, hydrogen storage system and controls. The fuel cell hybrid vehicle will then be tested and validated before being demonstrated with UPS at West Sacramento for up to three months and then shipped to the South Coast Air Basin for an additional three months of testing. If the performance specifications are met and DOE approves, Phase 2 will commence.

In Phase 2, at least six additional fuel cell hybrid walk-in vans will be built for operation under real-world conditions at UPS's distribution facilities in Northern California and in the South Coast Air Basin for at least 5,000 hours of operation. At least four of the vehicles will be deployed in the South Coast Air Basin. Any design updates will be incorporated due to lessons learned from the demonstration and validation phase. The team will also collect, process and provide all required data and make an assessment of the economic/market opportunities for fuel cell hybrid walk-in vans.

Sole Source Justification

Section VIII.B.2 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified. This request for a sole source award is made under provision B.2.d.: Other circumstances exist which in the determination of the Executive Officer require such waiver in the best interest of the AQMD. Specifically, these circumstances are: B.2.d. (1) Project involving cost sharing by multiple sponsors. This demonstration project will be cost shared by the DOE, CEC and UPS.

Benefits to SCAQMD

Projects to support implementation of various clean fuel vehicle incentive programs are included in the *Technology Advancement Office Clean Fuels Program Draft 2015 Plan Update* under the category "Develop and Demonstrate Medium- and Heavy-Duty Fuel Cell Vehicles". This project is to develop and demonstrate zero emission medium-duty trucks with fuel cell range-extended and electric technologies for goods movement operations. Diesel medium-duty delivery trucks are typically repowered with diesel engines. . The successful demonstration of this project will contribute to the attainment of clean air standards in the South Coast Air Basin by eliminating PM and NO_x emissions from re-powered diesel medium-duty delivery trucks.

Resource Impacts


The total cost for this proposed project is \$10,440,561. The SCAQMD will contract with the Center for Transportation and the Environment (CTE) who will act as the project lead and administrator. The contract with CTE shall not exceed \$980,000, with the funding divided between two phases (\$500,000 for Phase 1 and \$480,000 for Phase 2). Funding sources and proposed amounts are outlined in the table below:

Funding Source	Amount	Percent (%)
DOE	\$2,982,071	29
CEC	\$1,100,000	11
SCAQMD (<i>requested</i>)	\$980,000	9
UPS	\$5,378,490	51
Total	\$10,440,561	100

Sufficient funds are available from the Clean Fuels Fund (31), established as a special revenue fund resulting from the state-mandated Clean Fuels Program. The Clean Fuels Program, under Health and Safety Code Sections 40448.5 and 40512 and Vehicle Code Section 9250.11, establishes mechanisms to collect revenues from mobile sources to support projects to increase the utilization of clean fuels, including the development of the necessary advanced enabling technologies. Funds collected from motor vehicles are restricted, by statute, to be used for projects and program activities related to mobile sources that support the objectives of the Clean Fuels Program.

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 4

PROPOSAL: Execute Contract to Construct, Operate and Maintain Fast-Fill Public Access CNG Fueling Station at SCAQMD Headquarters and Authorize Property Usage Agreement 

SYNOPSIS: On December 6, 2014, the Board issued an RFP to solicit bids for an independent contractor to upgrade, operate and maintain a fast-fill public access CNG fueling station at SCAQMD Headquarters. Two bids were received that would meet current and future CNG fueling needs for the SCAQMD's natural gas fleet and the public. Staff recommends an award to the lowest cost qualified bidder. This action is to execute a contract as well as a property usage agreement with FirstCNG, LLC for a five-year term, with a renewal option for an additional five years. This action is to also augment the existing contract at a cost not to exceed \$75,000 with Trillium CNG to continue operating and maintaining the existing station. Additionally, existing CNG fueling station equipment will be surplussed and any residual value received into the Fast-Fill CNG Fueling Station Enterprise Fund (71).

COMMITTEE: Technology, April 17, 2015; Recommended for Approval with direction to staff to have further discussion with the Executive Officer and Chair about relocating the station.

RECOMMENDED ACTIONS:

1. Authorize the Chairman to execute a contract with FirstCNG, LLC to upgrade, operate and maintain the fast-fill CNG fueling station at SCAQMD Headquarters;
2. Authorize the Executive Officer to execute a property usage agreement with FirstCNG, LLC to operate the fast-fill CNG fueling station at SCAQMD Headquarters for a five-year term, with a renewal option for an additional five years;
3. Declare existing CNG fueling station equipment as surplus and authorize the removal of this equipment from the fixed asset inventory list; and

4. Authorize the Executive Officer to amend a contract with Trillium CNG to add \$75,000 from the Fast-Fill CNG Fueling Station Enterprise Fund (71) to continue the maintenance and management of SCAQMD's existing fast-fill CNG fueling station until the station is decommissioned.

Barry R. Wallerstein, D.Env.
Executive Officer

MMM:HH:DKS:DRC:PMB

Background

The current CNG station at SCAQMD headquarters was constructed in 2003 by Trillium CNG (formerly Pinnacle CNG). This station uses a reciprocating compressor and a hydraulic intensifier compressor (HIC) which has a combined rating of 235 horsepower. The compressor system is rated at 400 standard cubic feet per minute (SCFM) of CNG and the station has three 2-hose dispensers - one hose at 3,600 pounds per square inch (psi) and one hose at 3,000 psi. The dispensers accept most major credit cards. The SCAQMD CNG station has been maintained and managed under contract by Trillium CNG on a price-per-gallon dispensed metric. Revenues and expenses associated with this station are accounted for in the Fast-Fill CNG Fueling Station Enterprise Fund (71). The existing station equipment has been fully depreciated and has a net book value of zero for financial statement reporting but may have a residual value that will be realized through the disposal process.

On December 6, 2014, the SCAQMD issued RFP #P2015-18 to solicit bids for one or more independent contractors to lease property from the SCAQMD and upgrade the existing station with a state-of-the-art, public access CNG refueling system. The successful bidder(s) would also assume all maintenance and operating costs and responsibilities of the station including utilities, e.g., gas and electric. Successful bidders were to have proven expertise in sizing, planning, developing, installing and operating a public access CNG station. Expertise includes, but is not limited to, experience with public access CNG refueling stations and equipment, including compressors, dispensers, CNG storage vessels and driers. The RFP allowed bidders to submit proposals on all or part of the RFP tasks. The RFP included a mandatory Bidders' Conference and Site Walk on Friday, December 19, 2014. Eight companies were represented at the Bidders' Conference.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids was published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may have been notified utilizing SCAQMD’s own electronic listing of certified minority vendors. Notice of the RFP/RFQ has been emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD’s website (<http://www.aqmd.gov>).

Bid Evaluation

Two proposals - one from FirstCNG, LLC and another from Clean Energy - were received by the RFP closing deadline of Friday, January 16, 2015, at 5:00 p.m. Since both proposals were deemed technically qualified, the selection process was based on the cost criteria which accounts for 30% of the base 100 points available. Additional points were awarded exclusively to FirstCNG, LLC which met the Small Business definition in the RFP, while both contractors received points as a local business.

Table 1 compares the proposed station upgrade costs and fuel rates from FirstCNG and Clean Energy. The costs are based on current utility and commodity rates, fees, taxes, etc. The table also includes the cost-share amounts requested from each proponent to achieve the fuel rate values identified in the table.

Table 1. Proposed Project Costs and Fuel Rates

	FirstCNG, LLC	Clean Energy
Station Upgrade Cost	\$870,000	\$1,200,000
Requested SCAQMD Cofunding	\$0	\$600,000
SCAQMD Discount Fuel Rate, < 3000 GGE/mo. (\$/GGE)	\$0.99	\$2.12
SCAQMD Discount Fuel Rate, >3000 GGE/mo. (\$/GGE)	\$1.25	\$2.12
General Consumer Fuel Rate (\$/GGE)	\$1.99	\$2.35

The two proposals have the following common elements:

- Proven CNG vehicle fueling systems
- Comparably sized compressors, driers, storage vessels and dispensers to meet current and projected future CNG fueling demands of the SCAQMD’s CNG fueling station
- 24/7 station management with local technicians and remote monitoring
- Property usage agreement
- Discount fuel rate structure for SCAQMD vehicles and a fuel rate structure for non-SCAQMD customers

The two proposals have the following distinctive differences:

- FirstCNG’s proposal is significantly more cost-effective for the SCAQMD than Clean Energy’s proposal. FirstCNG is proposing a lower fuel rate to both the SCAQMD and the public without cost-share from the SCAQMD.

- Clean Energy is a large, publicly traded company while FirstCNG is a small independently owned business with small business subcontractors.
- Clean Energy estimated a four-to-six week down time for station upgrades while FirstCNG proposed interim fueling alternatives during the station upgrade, minimizing station downtime.
- Clean Energy proposed to use a cascade fueling method and to replace the existing CNG storage vessels with refurbished and recertified tanks that can achieve 5,500 psi. FirstCNG proposed a buffer storage method and utilization of the existing onsite storage while providing additional storage.
- Compared to Clean Energy, FirstCNG is a newer entity in the area of public access CNG stations (to date they've constructed one station, which is in the South Coast Air Basin); FirstCNG is based in Minneapolis, MN, with a local office in Beverly Hills, California.

Proposal

This action is to execute a contract with FirstCNG, LLC to upgrade, operate and maintain the fast-fill CNG fueling station at SCAQMD Headquarters as well as a property usage agreement with FirstCNG, LLC to operate the fast-fill CNG fueling station at SCAQMD Headquarters. Existing equipment, currently managed and maintained by Trillium CNG, will be removed from the District's fixed asset inventory list upon disposal by FirstCNG, LLC. This action is to also add \$75,000 to the existing contract with Trillium CNG to continue the maintenance and management of the existing equipment, until the current station is decommissioned from service.

FirstCNG will utilize experienced contractor services for the construction, maintenance and servicing of the station. The primary subcontractors identified in the proposal are: KPRS Construction Services (Brea, CA), Clean Fuel Connection Inc. (Arcadia, CA), and Galileo GNC¹ (Buenos Aires, Argentina). The subcontractors were involved in the design, permitting and construction of the newly opened FirstCNG station in Lake Forest, California, which operates under the brand name Titan NGV Fueling. The Titan CNG station is using a larger Galileo CNG compressor system than the system proposed for the SCAQMD station.

Galileo and Clean Fuel Connection Inc. will provide the equipment and technical services necessary to manage and maintain the station. The equipment for this project will be the Galileo Microbox system, which is a "Plug and Play" CNG refueling station designed by Galileo and manufactured by Galileo in Argentina. The Microbox is a fully integrated CNG compression system for CNG vehicle fueling stations that incorporates the following: a MX-200 oil-lubricated reciprocating compressor, electric drive motors

¹ Galileo GNC is based in Buenos Aires, Argentina, and was established in 1987. Argentina ranks third in the world in natural gas vehicles (NGVs). NGVs represent 20% of the vehicle market in Argentina and the country has more than 1,900 natural gas fueling stations.

with a soft-start system to minimize electric peaking use, integrated electric board, an automatic lubrication system, a gas cooling system to improve filling efficiency, blowdown, metering bridge, 1,000 liters of storage, a 24- hour-a-day tracking of key performance and safety parameters such as hardware configuration, and pressures and temperatures through Galileo's web based Supervisory Control and Data Acquisition (SCADA) system. While the final configuration of the station may be adjusted to ensure it meets SCAQMD's end users, the design plan currently entails joining the Microbox system to three 2-hose dispensers, each rated at 3,600 psi, and to provide a working flow rate of 3.1 gasoline-gallon equivalents (GGE) per minute at 0.71 (kilowatt-hours) kWh per GGE.

Galileo is considered a worldwide company, but it currently has a limited presence in the U.S. In California, there are currently four Galileo systems in use. Three of the Galileo systems are operating at Southern California Gas Company (SoCalGas) sites. These include one Microbox system in Riverside that was installed in 2011, and two smaller systems marketed under the name Nanobox. The two Nanobox systems are installed and operating in Chatsworth and Bakersfield, California. The newest Galileo system is operating at the Lake Forest station built by FirstCNG. The SoCalGas Microbox system in Riverside, which is performing satisfactorily, is comparable to the station proposed for the SCAQMD station.

Benefits to SCAQMD

This project will ensure that CNG fueling capabilities will continue to be provided at SCAQMD Headquarters in Diamond Bar and will encourage deployment of alternative fuel vehicles in the region. Since the Diamond Bar CNG station was first commissioned in 2003, it has realized a continuous increase in CNG fuel dispensed, averaging 1,000 GGE per month. The CNG fueling facility upgrade will provide accessible, convenient and affordable CNG for CNG-powered vehicle operators working at or visiting SCAQMD headquarters, and it is anticipated that the ownership of this facility by FirstCNG will help reduce overall electrical costs to the SCAQMD.

Resource Impacts

While there is no cost-share required by the SCAQMD in the proposal from FirstCNG, it is anticipated that there will be some electrical demands to operate the CNG station. It has been determined by Southern California Edison that a separate electrical power line is required for the SCAQMD property to meter the electricity used by the CNG station and to separate this usage from the SCAQMD and bill this usage to a separate and distinct business entity. Consequently, SCAQMD staff is currently soliciting for a qualified electrical engineer to assess the current and planned electrical demands of the SCAQMD, including the work required to introduce a separate electrical line and transformer onto SCAQMD property for the CNG station. Residual value received from the disposal of the existing equipment will be recognized into the Fast-Fill CNG

Fueling Station Enterprise Fund (71). The amendment to extend Trillium CNG's contract shall not exceed \$75,000 from the Fast-Fill Fueling Station Enterprise Fund (71). There are sufficient funds in the Fast-Fill Fueling Station Enterprise Fund (71) for these actions.

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 5

PROPOSAL: Issue RFP for CEQA Documentation Support to Prepare Program Environmental Impact Report for 2016 AQMP and Other CEQA-related Activities

SYNOPSIS: The SCAQMD requires additional resources to assist with CEQA-related activities for preparation of the 2016 AQMP Program Environmental Impact Report (EIR). This action is to issue an RFP to select one or more qualified contractors experienced in CEQA analysis and EIR preparation to assist staff with these activities. Funds for this proposal in an amount not to exceed \$125,000 are included in the Proposed FY 2015-16 Budget.

COMMITTEE: Administrative, April 10, 2015; Recommended for Approval

RECOMMENDED ACTION:

Approve the release of the attached RFP to solicit proposals for CEQA documentation support to prepare the 2016 AQMP Environmental Impact Report and other CEQA-related activities at a cost not to exceed \$125,000. Any contracts awarded would be valid for a period of up to two years, with an option to extend for an additional year.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:SN:MK

Background

Pursuant to the California Public Resources Code and California Code of Regulations, the California Environmental Quality Act (CEQA) applies to projects undertaken by, funded by, or requiring discretionary approval from public agencies. Consequently, CEQA analyses, documents, or notices are required for most SCAQMD rules, regulations, or plans prior to their adoption or modification by the Board. The SCAQMD can also be the CEQA lead agency for non-SCAQMD projects within the jurisdiction of the SCAQMD, where the SCAQMD has discretionary permit authority (e.g., construction of turbines at power plants, refinery modifications, etc.).

Moreover, Public Resources Code §21082.1 allows public agencies to prepare, or have prepared by consultants, CEQA documents. The public agency must retain independent review of all documents prepared by consultants. To augment current staff resources to prepare the Program EIR for the 2016 AQMP and other CEQA-related activity, staff recommends securing the services of one or more qualified consultants.

Proposal

SCAQMD seeks the service(s) of qualified CEQA contractor(s) primarily to assist SCAQMD CEQA staff with preparing the Program EIR for the 2016 AQMP and other CEQA-related activities as necessary. Initial funding shall be up to a maximum of \$125,000 to apply for the duration of the contract(s). The two-year contract includes an option to extend for an additional year, contingent on satisfactory performance and approval of subsequent budgets, at the Board's discretion.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFP/RFQ and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFP will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, including small businesses, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids."

Bid Evaluation

Consultants will be selected through an open bidding process according to SCAQMD's Consultant Selection Policy and Proposals. Proposals received will be evaluated by a diverse panel of qualified individuals according to the criteria described in the attached RFP. Successful bidders shall be retained by level-of-effort contracts; therefore work assignments can be issued for specific needs and projects. More than one award for a level-of-effort contract may be made from this solicitation.

Resource Impacts

Funds for this project will be requested in the proposed FY 2015-16 Budget.

Attachment

RFP #2015-29 CEQA Consultant Assistance

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

REQUEST FOR PROPOSALS

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) CONSULTANT ASSISTANCE

#P2015-29

The South Coast Air Quality Management District (SCAQMD) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Contractor," and "Consultant" are used interchangeably.

PURPOSE

The purpose of this RFP is to solicit qualified Consultants to: assist or augment SCAQMD staff in preparing technical analyses to be included in the CEQA documents, which are expected to include a number of CEQA-related tasks including, principally, the preparation of a Program Environmental Impact Report (PEIR) for the 2016 Air Quality Management Plan (AQMP) and other CEQA-related activities.

The Consultants are required to have, and be able to demonstrate knowledge of the substantive and procedural requirements of CEQA and extensive experience as the primary consultants responsible for preparing CEQA documents. The most qualified bids will demonstrate expertise in analyzing environmental impacts resulting from a variety of different types of regulatory programs and affected sources represented by control measures in the 2016 AQMP, such as stationary, mobile, and area sources, including transportation, zero- and near-zero emission technologies, goods movement, energy, and climate change. Consultant proposals should demonstrate extensive knowledge of CEQA; the SCAQMD's 2007 and 2012 AQMPs; air quality analysis, including knowledge of dispersion models, e.g., AERMOD; other SCAQMD programs and procedures, including the Carl Moyer Program, SCAQMD's Transportation Program, etc.; as well as demonstrate substantial experience and ability analyzing impacts to environmental areas identified on the environmental checklist (CEQA Guidelines, Appendix G), including, but not limited to, potential impacts to environmental topics such as aesthetics; energy; geology and soils; hazards and hazardous materials; hydrology and water quality; noise; solid and hazardous waste; transportation/traffic; etc. The SCAQMD shall retain full independent review and approval over any work prepared by the Consultant. All rights, title, and interest in the work product developed by the Contractor, shall remain with the SCAQMD. Work product shall include without limitation, all software, source code, documentation, reports, inventions, innovations, improvements, or other works of authorship, and all derivative works thereof that Contractor may conceive of or develop in the course of performing services for SCAQMD under this contract.

Contractor also agrees that any and all work product shall be deemed to be works-made-for-hire within the meaning of the copyright laws of the United States, and that SCAQMD shall own all rights, including, but not limited to, all copyright rights, in and to such work product.

Total funding for this RFP will be a maximum of \$125,000 for the fiscal year 2015 - 2016. The contract would be valid for a period of two years with an option to extend the contract an additional year. The intent of this RFP is to contract with knowledgeable and experienced CEQA Consultant(s) for assistance preparing the CEQA documents including the 2016 AQMP and other CEQA-related activities. The actual contract amount for the Consultant selected will be based on the cost proposal included as part of the Consultant's proposal. Consultants will be reimbursed on a Time and Materials (T&M) basis for work performed against the contract or specified tasks.

INDEX - The following are contained in this RFP:

Section I	Background/Information
Section II	Contact Person
Section III	Schedule of Events
Section IV	Participation in the Procurement Process
Section V	Statement of Work /Schedule of Deliverables
Section VI	Required Qualifications
Section VII	Proposal Submittal Requirements
Section VIII	Proposal Submission
Section IX	Proposal Evaluation/Contractor Selection Criteria
Section X	Funding
Section XI	Draft Contract

Attachment A - Certifications and Representations

SECTION I: BACKGROUND/INFORMATION

The goal of the SCAQMD with regard to preparing this RFP is to secure Consultant services to augment and/or assist SCAQMD CEQA staff with preparing any necessary CEQA documents for the 2016 AQMP as well as other CEQA-related activities. Contract(s) would last for a period of two years with an option to extend an additional year.

Consultant services are necessary to: assist staff with preparation of CEQA documents including, but not limited to, the PEIR for the 2016 AQMP, to ensure they are completed according to the established schedules; provide additional technical expertise in non-air quality environmental disciplines; and, in some cases, provide individuals to work onsite at the SCAQMD headquarters and under supervision of SCAQMD staff on an as-needed basis to expedite completion of specific sections of any necessary CEQA documents. The Consultant may also be required to attend meetings and/or workshops as necessary.

SECTION: II: CONTACT PERSON:

Questions regarding the content or intent of this RFP or on procedural matters should be addressed to:

Michael Krause
Program Supervisor – CEQA Section
Planning, Rule Development and Area Sources
South Coast Air Quality Management District
21865 Copley Drive

Diamond Bar, CA 91765
909.396.2706 v
909.396.3324 f
E-mail: mkrause@aqmd.gov

SECTION III: SCHEDULE OF EVENTS

May 1, 2015	Board Approval and Release of RFP
June 2, 2015	Proposals Due – No Later than 3:00 p.m.
June 2 – June 10, 2015	Proposal Evaluations
July 10, 2015	Governing Board Approval
July 17, 2015	Anticipated Contract Execution

No Bidders' Conference will be held in connection with this RFP. Dates are subject to change for Governing Board Approval, if interviews need to be conducted. At this time, however, it is not anticipated that interviews will be conducted.

SECTION IV: PARTICIPATION IN THE PROCUREMENT PROCESS

A. It is the policy of the South Coast Air Quality Management District to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises, and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts.

B. Definitions:

The definition of minority or women business enterprise set forth below is included for purposes of determining compliance with the affirmative steps requirement described in Paragraph F below on procurements funded in whole or in part with EPA grant funds which involve the use of subcontractors. The definition provided for disabled veteran business enterprise, local business, small business enterprise, low-emission vehicle business and off-peak hours delivery business are provided for purposes of determining eligibility for point or cost considerations in the evaluation process.

1. "Minority-or-women business enterprise" as used in this policy means a business enterprise that meets all the following criteria:
 - a. a business that is at least 51 percent owned by one or more minority persons or women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons or women.
 - b. a business whose management and daily business operations are controlled by one or more minority persons or women.
 - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native

Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).

3. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
4. "Disabled veteran business enterprise" as used in this policy means a business enterprise that meets all of the following criteria:
 - a. is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans or, in the case of a publicly owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
 - b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
 - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
5. "Local business" as used in the Procurement Policy and Procedure means a company that has an ongoing business within the boundaries of the South Coast SCAQMD at the time of bid application and performs 90% of the work related to the contract within the boundaries of the SCAQMD and satisfies the requirements of Paragraph I below.
6. "Small business" as used in this policy means a business that meets the following criteria:
 - a. an independently owned and operated business; ii) not dominant in its field of operation; iii) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
 - b. Manufacturer means a business that is both of the following:
 - (i) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.

(ii) Classified between Codes 311000 and 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

7. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or a small business and owns at least 51 percent of the joint venture.
 8. "Low-Emission Vehicle Business" as used in this policy means a company or contractor that uses low-emission vehicles in conducting deliveries to the SCAQMD. Low-emission vehicles include vehicles powered by electric, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), ethanol, methanol, hydrogen and diesel retrofitted with particulate matter (PM) traps.
 9. "Off-Peak Hours Delivery Business" as used in this policy means a company or contractor that commits to conducting deliveries to the SCAQMD during off-peak traffic hours defined as between 10:00 a.m. and 3:00 p.m.
- C. Under Request for Quotations (RFQ), DVBEs, DVBE business joint ventures, small businesses, and small business joint ventures shall be granted a preference in an amount equal to 5% of the lowest cost responsive bid. Low-Emission Vehicle Businesses shall be granted a preference in an amount equal to 5 percent of the lowest cost responsive bid. Off-Peak Hours Delivery Businesses shall be granted a preference in an amount equal to 2 percent of the lowest cost responsive bid. Local businesses (if the procurement is not funded in whole or in part by EPA grant funds) shall be granted a preference in an amount equal to 2% of the lowest cost responsive bid.
- D. Under Request for Proposals, DVBEs, DVBE joint ventures, small businesses, and small business joint ventures shall be awarded ten (10) points in the evaluation process. A non-DVBE or large business shall receive seven (7) points for subcontracting at least twenty-five (25%) of the total contract value to a DVBE and/or small business. Low-Emission Vehicle Businesses shall be awarded five (5) points in the evaluation process. On procurements which are not funded in whole or in part by EPA grant funds local businesses shall receive five (5) points. Off-Peak Hours Delivery Businesses shall be awarded two (2) points in the evaluation process.
- E. SCAQMD will ensure that discrimination in the award and performance of contracts does not occur on the basis of race, color, sex, national origin, marital status, sexual preference, creed, ancestry, medical condition, or retaliation for having filed a discrimination complaint in the performance of SCAQMD contractual obligations.
- F. SCAQMD requires Contractor to be in compliance with all state and federal laws and regulations with respect to its employees throughout the term of any awarded contract, including state minimum wage laws and OSHA requirements.
- G. When contracts are funded in whole or in part by EPA grant funds and if subcontracts are to be let, the Contractor must comply with the steps listed below, which demonstrate a good faith effort to solicit minority and women owned enterprises. Contractor shall submit a certification signed by an authorized official affirming compliance with the steps below at the time of proposal submission. The SCAQMD reserves the right to request documentation demonstrating compliance with these steps prior to contract execution.
1. Place qualified small-and-minority businesses and women's business enterprises on solicitation lists;

2. Ensure that small-and-minority businesses, and women's business enterprises are solicited whenever they are potential sources including advertising at least ten days in advance of the bid in a variety of media directed to minority-and women-owned business audiences;
 3. Divide total requirements, when economically feasible, into smaller tasks or quantities to permit maximum participation by small-and-minority business, and women's business enterprises;
 4. Establish delivery schedules, where requirements permit, which encourage participation by small-and-minority business, and women's business enterprises; and
 5. Use the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
- H. To the extent that any conflict exists between this policy and any requirements imposed by federal and state law relating to participation in a contract by a certified MBE/WBE/DVBE as a condition of receipt of federal or state funds, the federal or state requirements shall prevail.
- I. When contracts are not funded in whole or in part by EPA grant funds, a local business preference will be awarded. For such contracts that involve the purchase of commercial off-the-shelf products, local business preference will be given to suppliers or distributors of commercial off-the-shelf products who maintain an ongoing business within the geographical boundaries of the SCAQMD. However, if the subject matter of the RFP or RFQ calls for the fabrication or manufacture of custom products, only companies performing 90% of the manufacturing or fabrication effort within the geographical boundaries of the SCAQMD shall be entitled to the local business preference.
- J. In compliance with federal fair share requirements set forth in 40 CFR 35.6580, the SCAQMD shall establish a fair share goal annually for expenditures covered by its procurement policy.

SECTION V: WORK STATEMENT/SCHEDULE OF DELIVERABLES

A. Statement of Work

Consultant assistance under the terms of this RFP would primarily include preparing all or portions of the draft PEIR for the 2016 AQMP; responding to comments received on the draft PEIR; and other CEQA-related activities. Other activities, as necessary, may include, but are not limited to, the following: organizing, attending and/or speaking at public meetings; preparing or assisting with the preparation of a mitigation monitoring and reporting plan; assisting with finalizing the PEIR document; and other associated tasks as necessary.

Specifically, the Consultant should be experienced and familiar with the following:

1. CEQA-related statutes in the Public Resources Code (§21000, et seq.), especially amendments to the Public Resources Code that have occurred within the last three years

2. The CEQA-related implementing guidelines (California Code of Regulations, §15000, et seq.), especially sections related to preparing EIRs (§§15120 – 15132); preparation of a PEIR (§15168); and amendments to the CEQA Guidelines that have occurred within the last three years
3. Latest CEQA case-law
4. Federal and California air quality laws including SCAQMD Rules and Regulations
5. Air quality analysis and guidance such as in the SCAQMD's CEQA webpages at <http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook>
6. Impacts to non-air quality environmental topics on the CEQA environmental checklist (*Appendix G, CEQA Guidelines*)
7. Control strategies in the SCAQMD's 2007 and 2012 Air Quality Management Plan
8. Transportation, zero- and near-zero emission technologies, on-road and off-road mobile sources, goods movement, energy and climate change
9. Air quality dispersion models such as AERMOD, AERSCREEN, CALINE 4, HARP, etc.
10. Health risk assessment methodologies and procedures at <http://www.aqmd.gov/home/regulations/compliance/toxic-hot-spots-ab-2588/health-risk-assessment> and <http://www.aqmd.gov/home/permits/risk-assessment>
11. California Air Resources Board (CARB) EMFAC2014 and off-road source categories
12. Greenhouse gas analysis methodologies, the California Emission Estimator Model (CalEEMod[®]), and CAPCOA's *Quantifying Greenhouse Gas Mitigation Measures* (August, 2010) at <http://www.capcoa.org/wp-content/uploads/downloads/2010/11/CAPCOA-Quantification-Report-9-14-Final.pdf>

B. Schedule of Deliverables **(TO BE DETERMINED BY INDIVIDUAL TASK ORDER)**

SECTION VI: REQUIRED QUALIFICATIONS

- A. Persons or firms proposing to bid on this RFP must be qualified, experienced, and competent in providing a range of environmental analysis services within established time frames and budgets. Proposals submitted to the SCAQMD must include a statement of the Contractor's general qualifications demonstrating the Contractor's ability to fulfill requirements of this RFP. The Consultant's proposal should demonstrate any of the following:
 1. Sufficient experience and exemplary past performance in preparing EIRs for a range of projects such as regulatory actions, ongoing plans, land use projects, construction projects, traffic/transportation, goods movement, etc. To illustrate the Consultant's experience, the proposal must include sample EIRs prepared by the Consultant within the last two years demonstrating expertise in preparing environmental impact analyses in various environmental topics such as air quality, climate change, energy, water quality, hazards, human health, solid/hazardous wastes, transportation,

alternatives analyses, mitigation monitoring plans, etc. The Consultant must be the primary Consultant preparing the sample EIR. Primary Consultant means the Consultant was responsible for preparing 80 percent or more of the Sample EIR. Please provide sample EIRs on CD-ROMs. The sample CEQA documents must be EIRS or various types of EIRs, e.g., subsequent, program, master, etc. EIRs must include all of the substantive requirements in CEQA Guidelines §§15120 – 15132. Submitting addenda, negative declarations, mitigated negative declarations, or EIRs that do not include all of the substantive requirements in CEQA Guidelines §§15120 – 15132 is grounds for disqualification.

2. The Consultant's background in evaluating air pollution control technologies and potential secondary or indirect environmental impacts that may result from this type of equipment, particularly secondary criteria pollutant emissions, water quality impacts, or solid waste impacts. Knowledge of zero and near-zero emission technologies, emission control technologies for on-road and off-road mobile sources, alternative clean fuel technologies, and potential indirect impacts from such technologies is also desirable.
3. Sufficient experience and exemplary past performance in preparing EIRs for general plans or other area-wide plans such as AQMPs for local jurisdictions is desirable.
4. Expertise in the following areas: excellent writing skills; extensive knowledge of CEQA and CEQA case law; an excellent understanding of recent changes to CEQA and the CEQA Guidelines; extensive experience in conducting environmental impact analyses; preparing mitigation monitoring plans pursuant to Public Resources Code Section 21081.6; air quality modeling; preparing health risk assessments, and experience with determining consistency with applicable plans.
5. Experience preparing traffic analyses and knowledge of trip or vehicle miles traveled reduction programs.
6. Knowledge of off-road mobile sources, particularly construction equipment, and experience setting up construction scenarios and analyzing associated impacts.
7. Knowledge of, and experience with air quality dispersion modeling, health risk assessment procedures for air toxics, and other air quality-related models.
8. Knowledge of, and experience with CalEEMod[®] and the most current version of CARBs EMFAC and OFFROAD models.

B. Proposer must submit the following:

1. Resumes or similar statement of qualifications of person or persons who may be designated to manage SCAQMD projects and all other staff, and their job classifications, who may be assigned to work on SCAQMD CEQA projects.
2. List of representative clients.
3. Summary of proposer's general qualifications to meet required qualifications and fulfill statement of work, including additional firm personnel and resources beyond those of the designated Consultant.
4. Short and concise summary of major CEQA-related documents prepared by the Consultant as primary consultant (has prepared 80 percent or more of the CEQA

documents) during the last two years demonstrating knowledge and expertise involving as many as possible of the following issues:

- a. CEQA requirements contained in both the Public Resources Code and the state CEQA Guidelines, especially changes to CEQA and the CEQA Guidelines over the last two to three years;
 - b. Leading CEQA case-law;
 - c. California and Federal Clean Air Acts (including conformity);
 - d. SCAQMD's AQMPs, Rules and Regulations, especially best available control technology for stationary sources;
 - e. Air quality analysis including criteria pollutant emissions from construction and operational phases;
 - f. Greenhouse gas impacts and mitigation measures;
 - g. Proficiency using air quality modeling tools, e.g., CalEEMod[®], CALINE4, HARP, AERMOD, AERSCREEN, etc
 - h. CARB's EMFAC2014 and off-road source categories;
 - i. Transportation, zero- and near-zero emission technologies, on-road and off-road mobile sources, goods movement, energy and climate change;
 - j. Analyzing non-air quality environmental topics identified on the environmental checklist form (Appendix G of the CEQA Guidelines).
5. Short and concise summary of other relevant experience and training that demonstrates ability to prepare legally defensible CEQA documents involving as many as possible of the issues listed in #4 above. This may include preparing mitigation monitoring plans, identifying project alternatives, preparing statements of findings and statements of overriding considerations, responding to comments received on CEQA documents prepared by your firm, conducting public meetings, experience working for public agencies, academic experience, publications, professional activities, etc.
6. A representative EIR (no addenda, negative declarations, mitigated negative declarations, or EIRs that do not include all of the substantive requirements in CEQA Guidelines §§15120 – 15132) addressing impacts to a wide range of environmental topics must be submitted with each proposal submitted to the SCAQMD in response to this RFP. In general, the CEQA document should demonstrate knowledge and expertise with the topics listed in #4 above. Only an EIR where the consultant is the primary Consultant (has prepared 80 percent or more of the EIR) will be accepted as a sample CEQA document.

SECTION VII: PROPOSAL SUBMITTAL REQUIREMENTS

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format or to follow other directions in this RFP will result in immediate elimination from proposal process without

further evaluation of the proposal by the SCAQMD. Please do not simply reiterate the language in this RFP. Concise responsive proposals are desired.

Each proposal must be submitted in three separate volumes:

- Volume I - Technical Proposal
- Volume II - Cost Proposal
- Volume III - Certifications and Representations included in Attachment A to this RFP, which have been executed by an authorized official of the Contractor.

A separate cover letter including the name, address, and telephone number of the contractor, and signed by the person or persons authorized to represent the firm should accompany the proposal submission. Firm contact information as follows should also be included in the cover letter:

1. Address and telephone number of office in, or nearest to, Diamond Bar, California.
2. Name and title of firm's representative designated as the contact.

A separate Table of Contents should be provided for Volumes I and II.

VOLUME I - TECHNICAL PROPOSAL

DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL VOLUME

Summary (Section A) – State overall approach to meeting the objectives and satisfying the scope of work to be performed, the sequence of activities, and a description of methodology or techniques to be used for preparing CEQA documents.

Program Schedule (Section B) – Provide a sample of projected milestones or benchmarks for submitting EIRs within a six- to nine-month schedule.

Project Organization (Section C) – Describe the Consultant's organizational structure using an organization chart or matrix showing the structure of the firm, illustrating who reports to whom, as well as the relationship of all project personnel to the project manager. In addition, this section should describe project monitoring or tracking procedures used to ensure that projects will be completed on time.

Qualifications (Section D) - Describe the technical capabilities of the firm, with particular reference to a variety of areas of expertise, including, but not limited to, air quality modeling, knowledge of energy supply and demand, hydrology and water issues, hazards and hazardous materials analysis, noise analyses, solid and hazardous waste analyses, traffic studies, familiarity with SCAQMD operations and procedures as well as that of regulatory agencies in general, etc. This section should include a list of all major CEQA projects prepared by the Consultant within the last two years where the Consultant was the primary Consultant (was responsible for preparing at least 80 percent of the CEQA document), with particular emphasis on those that include an analysis of significant adverse air quality impacts (especially greenhouse gas impacts and climate change), i.e., EIRs. Provide a brief summary of the major highlights of each project. Specifically, the list of projects should demonstrate technical and/or engineering expertise that may be useful in preparing the PEIR for the 2016 AQMP. An ideal response will describe work experience in key areas applicable to SCAQMD rulemaking, e.g., controlling criteria pollutant and air toxic emissions from both

stationary and mobile sources. Bidders are encouraged to include a discussion of the following items in the project summaries: a) type of project or description and its location; b) lead agency for the project c) type of environmental documentation prepared for the project; d) unusual problems or situations, if any, associated with the project; e) any technical or complex analyses performed for the project; and f) whether or not the project was completed on time. In particular, it is important that these summaries highlight areas of technical or other types of expertise exhibited by the Contractor. Provide references of the above or other similar projects performed during the last two years. Include contact name, title, and telephone number for any references listed. If you have performed work for the SCAQMD in the last two years, identify every project and the SCAQMD project manager.

Assigned Personnel (Section E) - Provide the following information on the staff to be assigned to this project:

1. List all key personnel that will be assigned to the project by level and name. Provide a resume or similar statement of the qualifications of the lead person and all persons assigned to the project. Substitution of project manager or lead personnel will not be permitted without prior written approval of SCAQMD.
2. Provide a spreadsheet of the labor hours proposed for each labor category at the task level to complete the entire 2016 AQMP PEIR process. **DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL PROPOSAL.**
3. Provide a statement indicating whether or not 90% of the work will be performed within the geographical boundaries of the SCAQMD's jurisdiction.
4. Provide a statement of the education and training program provided by, or required of, the staff identified for participation in the project, particularly with reference to management consulting, governmental practices and procedures, and technical matters.
5. Provide a summary of your firm's general qualifications to meet required qualifications and fulfill statement of work, including additional firm personnel and resources beyond those who may be assigned to the project.

Subcontractors (Section F) – This project may require expertise in multiple technical areas. List any subcontractors who will be used and the type of work or tasks to be performed by them. This section should identify all personnel to be used by the subcontractor and include, at a minimum, a resume for each individual that includes the same information required on the resumes for the primary Contractor personnel. The Contractor must specifically identify what tasks will be assigned to the subcontractor for this project. If no specific tasks have been identified for potential subcontractors, **do not list them in the proposal**. Further, the SCAQMD will **not** consider such subcontractors when awarding points during the proposal evaluation process (see Section IX below). The SCAQMD reserves the right to reject the Contractors' proposed subcontractors for any reason.

Conflict of Interest (Section G) - Address possible conflicts of interest with other clients affected by actions performed by the firm on behalf of SCAQMD. Although the proposer will not be automatically disqualified by reason of work performed for such firms, SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal. Summarize any conflict of interest identification and resolution procedures and/or protocols written, adopted, or established by your firm.

Additional Data (Section H) – Provide other essential data that may assist in the evaluation of this proposal.

VOLUME II - COST PROPOSAL

Name and Address – The Cost Proposal **must list the name and complete address of the proposer in the upper, left-hand corner of the main body of the Cost Proposal volume.**

Cost Proposal – SCAQMD anticipates awarding a Time & Materials contract. Cost information must be provided as listed below:

1. Detail must be provided for the following categories:
 - A. **Labor** – List the total number of hours and the hourly billing rate for each level of professional staff. A breakdown of the proposed billing rates must identify the direct labor rate, overhead rate and amount, fringe benefit rate and amount, General and Administrative rate and amount, and proposed profit or fee. Provide a basis of estimate justifying the proposed labor hours and proposed labor mix.
 - B. **Subcontractor Costs** – List subcontractor costs and identify subcontractors that will be used for this project by name and their specific tasks. Itemize subcontractor charges per hour, per task, or per day.
 - C. **Travel Costs** - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.
 - D. **Other Direct Costs** -This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs. The SCAQMD will not pay for any equipment, work products, or services unless adequately justified and documented. Any equipment or products paid for by the SCAQMD will become property of the SCAQMD.

VOLUME III - CERTIFICATIONS AND REPRESENTATIONS (see Attachment A to this RFP)

SECTION VIII: PROPOSAL SUBMISSION

All proposals must be submitted according to specifications set forth in the sections above. Failure to adhere to any of these specifications may be cause for rejection of a proposal without further review or evaluation.

Signature - All proposals should be signed by an authorized representative of the Proposer.

Due Date - The proposer shall submit four (4) complete copies of the proposal with sample EIRs on CD-ROMs in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the proposer and the words "Request for Proposals P2015-29." **All proposals are due no later than 3:00 p.m., June 2, 2015, and should be directed to:**

Procurement Section
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
(909) 396-3520

Late bids/proposals will not be accepted under any circumstances. Any correction or resubmission done by the proposer will not extend the submittal due date.

Grounds for Rejection - A proposal may be immediately rejected without further review or evaluation if:

- It is not prepared in the format described;
- Required submittals are not included;
- Directions for submitting proposals are not followed; or
- It is signed by an individual not authorized to represent the firm.

Disposition of Proposals - SCAQMD reserves the right to reject any or all proposals for any reason. All responses become the property of SCAQMD. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.

Modification or Withdrawal - Once submitted, proposals cannot be altered without the prior written consent of SCAQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

SECTION IX: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

- A. Proposals will be evaluated by a panel of three to five SCAQMD staff members familiar with the subject matter of the project. The panel shall be appointed by the Executive Officer or his designee. In addition, the evaluation panel may include such outside public sector or academic community expertise as deemed desirable by the Executive Officer. The panel will make a recommendation to the Executive Officer and/or the Governing Board of the SCAQMD for final selection of a contractor and negotiation of a contract.
- B. Each member of the evaluation panel shall be accorded equal weight in his or her rating of proposals. The evaluation panel members shall evaluate the proposals according to the specified criteria and numerical weightings set forth below.

1. R&D Projects Requiring Technical or Scientific Expertise, or Special Projects Requiring Unique Knowledge or Abilities

<u>a. Technical Criteria</u>	<u>Points</u>
Demonstrated CEQA-related Experience	40
Technical/Management Approach	15
Organization/Technical Writing	10
Past Performance of the Proposer on Similar Projects or Work Previously Done for SCAQMD, Similar Governmental Agencies, or Other Clients	5
<u>b. Cost</u>	<u>30</u>

Total Possible Points 100

c. Additional Points

Small Business or Small Business Joint Venture	10
DVBE or DVBE Joint Venture	10
Use of DVBE or Small Business Subcontractors	7
Low-Emission Vehicle Business	5
Local Business (Non-EPA Funded Projects Only)	5
Off-Peak Hours Delivery Business	2

The cumulative points awarded for small business, DVBE, use of small business or DVBE subcontractors, low-emission vehicle business, local business, and off-peak hours delivery business shall not exceed 15 points.

Note: The award of these additional points shall be contingent upon Proposer completing the Self-Certification section of Attachment A – Certifications and Representations and/or inclusion of a statement in the proposal self-certifying that Proposer qualifies for additional points as detailed above.

2. To receive additional points in the evaluation process for the categories of Small Business or Small Business Joint Venture, DVBE or DVBE Joint Venture or Local Business (for non-EPA funded projects), the proposer must submit a self-certification or certification from the State of California Office of Small Business Certification and Resources at the time of proposal submission certifying that the proposer meets the requirements set forth in Section III. To receive points for the use of DVBE and/or Small Business subcontractors, at least 25 percent of the total contract value must be subcontracted to DVBEs and/or Small Businesses (for additional information regarding subcontractors, please see Subcontractors (Section F)). To receive points as a Low-Emission Vehicle Business, the proposer must demonstrate to the Executive Officer, or designee, that supplies and materials delivered to the SCAQMD are delivered in vehicles that operate on either clean-fuels or if powered by diesel fuel, that the vehicles have particulate traps installed. To receive points as an Off-Peak Hours Delivery Business, the proposer must submit, at proposal submission, certification of its commitment to delivering supplies and materials to SCAQMD between the hours of 10:00 a.m. and 3:00 p.m. The cumulative points awarded for small business, DVBE, use of Small Business or DVBE Subcontractors, Local Business, Low-Emission Vehicle Business and Off-Peak Hour Delivery Business shall not exceed 15 points.

The Procurement Section will be responsible for monitoring compliance of suppliers awarded purchase orders based upon use of low-emission vehicles or off-peak traffic hour delivery commitments through the use of vendor logs which will identify the contractor awarded the incentive. The purchase order shall incorporate terms which

obligate the supplier to deliver materials in low-emission vehicles or deliver during off-peak traffic hours. The Receiving department will monitor those qualified supplier deliveries to ensure compliance to the purchase order requirements. Suppliers in non-compliance will be subject to a two percent of total purchase order value penalty. The Procurement Manager will adjudicate any disputes regarding either low-emission vehicle or off-peak hour deliveries.

3. For procurement of Research and Development (R & D) projects or projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, technical factors including past experience shall be weighted at 70 points and cost shall be weighted at 30 points. A proposal must receive at least 56 out of 70 points on R & D projects and projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, in order to be deemed qualified for award.
 4. The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. For example if the lowest cost proposal is \$1,000 and the maximum points available are 30 points, this proposal would receive the full 30 points. If the next lowest cost proposal is \$1,100 it would receive 27 points reflecting the fact that it is 10% higher than the lowest cost (90% of 30 points = 27 points).
- C. During the selection process the evaluation panel may wish to interview some proposers for clarification purposes only. No new material will be permitted at this time.
 - D. The SCAQMD Executive Officer or Governing Board may award the contract to a proposer other than the proposer receiving the highest rating in the event the Governing Board determines that another proposer from among those technically qualified would provide the best value to SCAQMD considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process. Evidence provided during the bid review process is limited to clarification by the Proposer of information presented in his/her proposal.
 - E. Selection will be made based on the above-described criteria and rating factors. The selection will be made by and is subject to Executive Officer or Governing Board approval. Proposers may be notified of the results by letter.
 - F. The Governing Board has approved a Bid Protest Procedure which provides a process for a bidder or prospective bidder to submit a written protest to the SCAQMD Procurement Manager in recognition of two types of protests: Protest Regarding Solicitation and Protest Regarding Award of a Contract. Copies of the Bid Protest Policy can be secured through a request to the SCAQMD Procurement Department.
 - G. The Executive Officer or Governing Board may award contracts to more than one proposer if in (his or their) sole judgment the purposes of the (contract or award) would best be served by selecting multiple proposers.

- H. If additional funds become available, the Executive Officer or Governing Board may increase the amount awarded. The Executive Officer or Governing Board may also select additional proposers for a grant or contract if additional funds become available.
- I. Upon mutual agreement of the parties of any resultant contract from this RFP, the original contract term may be extended.

SECTION X: FUNDING

The total funding for the work contemplated by this RFP will be a maximum \$125,000 for the base year. The actual amount of funding allocated for individual consultant contracts will depend upon each consultant's qualifications and SCAQMD needs with an option to extend the two-year contract an additional year. The contract could be amended to increase funding for fiscal year (FY) 2016 – 2017, if CEQA consultant assistance funding is included in the SCAQMD's FY 2016 – 2017 budget.

SECTION XI: DRAFT CONTRACT (Provided as a sample only)



**South Coast
Air Quality Management District**

21865 Copley Drive, Diamond Bar, CA 91765-4178

(909) 396-2000 • www.aqmd.gov

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "SCAQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. SCAQMD is the local agency with primary responsibility for regulating stationary source air pollution in the South Coast Air Basin in the State of California. SCAQMD is authorized to enter into this Contract under California Health and Safety Code Section 40489. SCAQMD desires to contract with CONTRACTOR for services described in Attachment 1 - Statement of Work, attached here and made a part here by this reference. CONTRACTOR warrants that it is well-qualified and has the experience to provide such services on the terms set forth here.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
 - D. CONTRACTOR agrees to obtain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR warrants that it holds all necessary and required licenses and permits to provide these services. CONTRACTOR further agrees to immediately notify SCAQMD in writing of any change in its licensing status.
 - B. CONTRACTOR shall submit reports to SCAQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. SCAQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall be responsible for exercising the degree of skill and care customarily required by accepted professional practices and procedures subject to SCAQMD's final approval which SCAQMD will not unreasonably withhold. Any costs incurred due to the failure to meet the foregoing standards, or otherwise defective services which require re-performance, as directed by SCAQMD, shall be the responsibility of CONTRACTOR. CONTRACTOR's failure to achieve the performance goals and objectives stated in Attachment 1- Statement of Work, is not a basis for requesting re-performance unless work conducted by CONTRACTOR is deemed by SCAQMD to have failed the foregoing standards of performance.

- E. CONTRACTOR shall post a performance bond in the amount of *** Dollars (\$***) from a surety authorized to issue such bonds within the State. [USE IF REQUIRED]
 - F. SCAQMD has the right to review the terms and conditions of the performance bond and to request modifications thereto which will ensure that SCAQMD will be compensated in the event CONTRACTOR fails to perform and also provides SCAQMD with the opportunity to review the qualifications of the entity designated by the issuer of the performance bond to perform in CONTRACTOR's absence and, if necessary, the right to reject such entity. [USE IF REQUIRED]
 - G. CONTRACTOR shall ensure, through its contracts with any subcontractor(s), that employees and agents performing under this Contract shall abide by the requirements set forth in this clause.
4. TERM - The term of this Contract is from the date of execution by both parties (or insert date) to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties.
5. TERMINATION
- A. In the event any party fails to comply with any term or condition of this Contract, or fails to provide services in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 – Statement of Work, this failure shall constitute a breach of this Contract. The non-breaching party shall notify the breaching party that it must cure this breach or provide written notification of its intention to terminate this contract. Notification shall be provided in the manner set forth in **Clause 11**. The non-breaching party reserves all rights under law and equity to enforce this contract and recover damages.
 - B. SCAQMD reserves the right to terminate this Agreement, in whole or in part, without cause, upon thirty (30) days' written notice. Once such notice has been given, CONTRACTOR shall, except as and to the extent or directed otherwise by SCAQMD, discontinue any Work being performed under this Agreement and cancel any of CONTRACTOR's orders for materials, facilities, and supplies in connection with such Work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to SCAQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any Work already in progress and to dispose of any property as requested by SCAQMD.
 - C. CONTRACTOR shall be paid in accordance with this Agreement for all work performed before the effective date of termination under Clause 5.B. Before expiration of the thirty (30) days' written notice, CONTRACTOR shall promptly deliver to SCAQMD all copies of documents and other information and data prepared or developed by CONTRACTOR under this Agreement with the exception of a record copy of such materials, which may be retained by CONTRACTOR.
6. INSURANCE
- A. CONTRACTOR shall furnish evidence to SCAQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.
 - B. CONTRACTOR shall furnish evidence to SCAQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.
 - C. CONTRACTOR shall furnish evidence to SCAQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any

work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.

- D. CONTRACTOR shall furnish evidence to SCAQMD of Professional Liability Insurance with an aggregate limit of not less than \$5,000,000. [OPTIONAL FOR PROFESSIONAL SERVICES]
- E. If CONTRACTOR fails to maintain the required insurance coverage set forth above, SCAQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
- F. All insurance certificates should be mailed to: SCAQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4178. **The SCAQMD Contract Number must be included on the face of the certificate.**
- G. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.

7. **INDEMNIFICATION** - CONTRACTOR agrees to hold harmless, defend and indemnify SCAQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, costs, lawsuits, demands, judgments, legal fees, or any other expenses incurred or required to be paid by SCAQMD, its officers, employees, agents, representatives, or successors-in-interest arising from or related to any injury to persons or damage to property caused directly or indirectly, in whole or in part, by any willful or negligent act or omission of CONTRACTOR, its employees, subcontractors, agents or representatives in the performance of this Contract.

8. **CO-FUNDING [USE IF REQUIRED]**

- A. CONTRACTOR shall obtain co-funding as follows: ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); and ***, ***, Dollars (\$***).
- B. If CONTRACTOR fails to obtain co-funding in the amount(s) referenced above, then SCAQMD reserves the right to renegotiate or terminate this Contract.
- C. CONTRACTOR shall provide co-funding in the amount of *** Dollars (\$***) for this project. If CONTRACTOR fails to provide this co-funding, then SCAQMD reserves the right to renegotiate or terminate this Contract.

9. **PAYMENT**

[FIXED PRICE]-use this one or the T&M one below.

- A. SCAQMD shall pay CONTRACTOR a fixed price of *** Dollars (\$***) for work performed under this Contract in accordance with Attachment 2 - Payment Schedule, attached here and included here by reference. Payment shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an invoice prepared and furnished by CONTRACTOR showing services performed and referencing tasks and deliverables as shown in Attachment 1 - Statement of Work, and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: ***.
- B. An amount equal to ten percent (10%) shall be withheld from all charges paid until satisfactory completion and final acceptance of work by SCAQMD. [OPTIONAL]
- C. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD sole judgment.

[T & M]-use this one or the Fixed Price one above.

- A. SCAQMD shall pay CONTRACTOR a total not to exceed amount of *** Dollars (\$***), including any authorized travel-related expenses, for time and materials at rates in accordance with Attachment 2 – Cost Schedule, attached here and included here by this reference. Payment of charges shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an itemized invoice prepared and furnished by CONTRACTOR referencing line item expenditures as listed in Attachment 2 and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: ***.
- B. CONTRACTOR shall adhere to total tasks and/or cost elements (cost category) expenditures as listed in Attachment 2. Reallocation of costs between tasks and/or cost category expenditures is permitted up to One Thousand Dollars (\$1,000) upon prior written approval from SCAQMD. Reallocation of costs in excess of One Thousand Dollars (\$1,000) between tasks and/or cost category expenditures requires an amendment to this Contract.
- C. SCAQMD's payment of invoices shall be subject to the following limitations and requirements:
- i) Charges for equipment, material, and supply costs, travel expenses, subcontractors, and other charges, as applicable, must be itemized by CONTRACTOR. Reimbursement for equipment, material, supplies, subcontractors, and other charges shall be made at actual cost. Supporting documentation must be provided for all individual charges (with the exception of direct labor charges provided by CONTRACTOR). SCAQMD's reimbursement of travel expenses and requirements for supporting documentation are listed below.
 - ii) CONTRACTOR's failure to provide receipts shall be grounds for SCAQMD's non-reimbursement of such charges. SCAQMD may reduce payments on invoices by those charges for which receipts were not provided.
 - iii) SCAQMD shall not pay interest, fees, handling charges, or cost of money on Contract.
- D. SCAQMD shall reimburse CONTRACTOR for travel-related expenses only if such travel is expressly set forth in Attachment 2 – Cost Schedule of this Contract or pre-authorized by SCAQMD in writing.
- i) SCAQMD's reimbursement of travel-related expenses shall cover lodging, meals, other incidental expenses, and costs of transportation subject to the following limitations:
 - Air Transportation - Coach class rate for all flights. If coach is not available, business class rate is permissible.
 - Car Rental - A compact car rental. A mid-size car rental is permissible if car rental is shared by three or more individuals.
 - Lodging - Up to One Hundred Fifty Dollars (\$150) per night. A higher amount of reimbursement is permissible if pre-approved by SCAQMD.
 - Meals - Daily allowance is Fifty Dollars (\$50.00).
 - ii) Supporting documentation shall be provided for travel-related expenses in accordance with the following requirements:
 - Lodging, Airfare, Car Rentals - Bill(s) for actual expenses incurred.
 - Meals - Meals billed in excess of \$50.00 each day require receipts or other supporting documentation for the total amount of the bill and must be approved by SCAQMD.
 - Mileage - Beginning each January 1, the rate shall be adjusted effective February 1 by the Chief Financial Officer based on the Internal Revenue Service Standard Mileage Rate
 - Other travel-related expenses - Receipts are required for all individual items.
- E. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD sole judgment.

10. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any software, documents, or reports developed under this Contract shall at all times remain with SCAQMD. Such material is agreed to be SCAQMD proprietary information.
 - A. Rights of Technical Data - SCAQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use technical data for its own benefit.
 - B. Copyright - CONTRACTOR agrees to grant SCAQMD a royalty-free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract. In addition:
11. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

SCAQMD: South Coast Air Quality Management District
 21865 Copley Drive
 Diamond Bar, CA 91765-4178
 Attn: ***

CONTRACTOR: ***

 Attn: ***

12. EMPLOYEES OF CONTRACTOR
 - A. SCAQMD reserves the right to review the resumes of any of CONTRACTOR employees, and/or any subcontractors selected to perform the work specified here and to disapprove CONTRACTOR choices. CONTRACTOR warrants that it will employ no subcontractor without written approval from SCAQMD. CONTRACTOR shall be responsible for the cost of regular pay to its employees, as well as cost of vacation, vacation replacements, sick leave, severance pay and pay for legal holidays.
 - B. CONTRACTOR, its officers, employees, agents, representatives or subcontractors shall in no sense be considered employees or agents of SCAQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by SCAQMD to its employees.
 - C. SCAQMD requires Contractor to be in compliance with all state and federal laws and regulations with respect to its employees throughout the term of this Contract, including state minimum wage laws and OSHA requirements.
13. CONFIDENTIALITY - It is expressly understood and agreed that SCAQMD may designate in a conspicuous manner the information which CONTRACTOR obtains from SCAQMD as confidential. CONTRACTOR agrees to:
 - A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees or subcontractors of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
 - B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that

they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this clause.

- C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
- D. Notify SCAQMD promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this clause.
- E. Take at CONTRACTOR expense, but at SCAQMD's option and in any event under SCAQMD's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
- F. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information.
- G. Prevent access to such information by any person or entity not authorized under this Contract.
- H. Establish specific procedures in order to fulfill the obligations of this clause.
- I. Notwithstanding the above, nothing herein is intended to abrogate or modify the provisions of Government Code Section 6250 et.seq. (Public Records Act).

14. PUBLICATION

- A. SCAQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from SCAQMD in connection with performance under this Contract.
- B. Information, data, documents, or reports developed by CONTRACTOR for SCAQMD, pursuant to this Contract, shall be part of SCAQMD public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to SCAQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

"This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management District (SCAQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of SCAQMD. SCAQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. SCAQMD has not approved or disapproved this report, nor has SCAQMD passed upon the accuracy or adequacy of the information contained herein."

- C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

15. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order. CONTRACTOR shall likewise require each subcontractor to comply with this clause and shall include in each such subcontract language similar to this clause.

16. SOLICITATION OF EMPLOYEES - CONTRACTOR expressly agrees that CONTRACTOR shall not, during the term of this Contract, nor for a period of six months after termination, solicit for employment, whether as

an employee or independent contractor, any person who is or has been employed by SCAQMD during the term of this Contract without the consent of SCAQMD.

17. PROPERTY AND SECURITY - Without limiting CONTRACTOR obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by SCAQMD for access to and activity in and around SCAQMD premises.
18. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
19. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or SCAQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
20. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
21. FORCE MAJEURE - Neither SCAQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of SCAQMD or CONTRACTOR.
22. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
23. HEADINGS - Headings on the clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
24. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.
25. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
26. CITIZENSHIP AND ALIEN STATUS
 - A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be

hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations.

- B. Notwithstanding paragraph A above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
- C. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless SCAQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or SCAQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.

- 27. FEDERAL FAIR SHARE POLICY - As a recipient of Environmental Protection Agency (EPA) grant funds, SCAQMD is required to flow down to all of its contractors the provisions of 40 CFR Section 31.36(e) which addresses affirmative steps for contracting with small-and-minority firms, women's business enterprises, and labor surplus area firms. CONTRACTOR agrees to comply with these provisions.
- 28. REQUIREMENT FOR FILING STATEMENT OF ECONOMIC INTERESTS - In accordance with the Political Reform Act of 1974 (Government Code Sec. 81000 et seq.) and regulations issued by the Fair Political Practices Commission (FPPC), SCAQMD has determined that the nature of the work to be performed under this Contract requires CONTRACTOR to submit a Form 700, Statement of Economic Interests for Designated Officials and Employees, for each of its employees assigned to work on this Contract. These forms may be obtained from SCAQMD's District Counsel's office. **[USE IF REQUIRED]**
- 29. COMPLIANCE WITH SINGLE AUDIT ACT REQUIREMENTS **[OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH FOR-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING]** - During the term of the Contract, and for a period of three (3) years from the date of Contract expiration, and if requested in writing by the SCAQMD, CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

[OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH NON-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING] - Beginning with CONTRACTOR's current fiscal year and continuing through the term of this Contract, CONTRACTOR shall have a single or program-specific audit conducted in accordance with the requirements of the Office of Management and Budget (OMB) Circular A-133 (Audits of States, Local Governments and Non-Profit Organizations), if CONTRACTOR expended Five Hundred Thousand Dollars (\$500,000) or more in a year in Federal Awards. Such audit shall be conducted by a firm of independent accountants in accordance with Generally Accepted Government Audit Standards (GAGAS). Within thirty (30) days of Contract execution, CONTRACTOR shall forward to SCAQMD the most recent A-133 Audit Report issued by its independent auditors. Subsequent A-133 Audit Reports shall be submitted to the SCAQMD within thirty (30) days of issuance.

CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

30. OPTION TO EXTEND THE TERM OF THE CONTRACT - SCAQMD reserves the right to extend the contract for a one-year period commencing ***** (enter date) at the (option price or Not-to-Exceed Amount) set forth in Attachment 2. In the event that SCAQMD elects to extend the contract, a written notice of its intent to extend the contract shall be provided to CONTRACTOR no later than thirty (30) days prior to Contract expiration. **[USE IF REQUIRED]**
31. KEY PERSONNEL - *insert person's name* is deemed critical to the successful performance of this Contract. Any changes in key personnel by CONTRACTOR must be approved by SCAQMD. All substitute personnel must possess qualifications/experience equal to the original named key personnel and must be approved by SCAQMD. SCAQMD reserves the right to interview proposed substitute key personnel. **[USE IF REQUIRED]**
32. PREVAILING WAGES – **[USE FOR INFRASTRUCTURE PROJECTS]** CONTRACTOR is alerted to the prevailing wage requirements of California Labor Code section 1770 et seq. Copies of the prevailing rate of per diem wages are on file at the SCAQMD's headquarters, of which shall be made available to any interested party on request. Notwithstanding the preceding sentence, CONTRACTOR shall be responsible for determining the applicability of the provisions of California Labor Code and complying with the same, including, without limitation, obtaining from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work, making the same available to any interested party upon request, paying any applicable prevailing rates, posting copies thereof at the job site and flowing all applicable prevailing wage rate requirements to its subcontractors. CONTRACTOR shall indemnify, defend and hold harmless the South Coast Air Quality Management District against any and all claims, demands, damages, defense costs or liabilities based on failure to adhere to the above referenced statutes.
33. APPROVAL OF SUBCONTRACT
 - A. If CONTRACTOR intends to subcontract a portion of the work under this Contract, written approval of the terms of the proposed subcontract(s) shall be obtained from SCAQMD's Executive Officer or designee prior to execution of the subcontract. No subcontract charges will be reimbursed unless such approval has been obtained.
 - B. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or cost schedule shall also require the written approval of the Executive Officer or designee prior to execution.
 - C. The sole purpose of SCAQMD's review is to insure that SCAQMD's contract rights have not been diminished in the subcontractor agreement. SCAQMD shall not supervise, direct, or have control over, or be responsible for, subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure of subcontractor to comply with any local, state, or federal laws, or rules or regulations.

34. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR providing services to SCAQMD and there are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT ***

By: _____ By: _____
Barry R. Wallerstein, D.Env., Executive Officer Name:
Dr. William A. Burke, Chairman, Governing Board Title:

Date: _____ Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, General Counsel

By: _____

ATTACHMENT A

CERTIFICATIONS & REPRESENTATIONS



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Business Information Request

Dear SCAQMD Contractor/Supplier:

The South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, complete the enclosed W-9 form, remember to sign both documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Michael B. O'Kelly
Chief Financial Officer

DH:tm

Enclosures: Business Information Request
Disadvantaged Business Certification
W-9
Form 590 Withholding Exemption Certificate
Federal Contract Debarment Certification
Campaign Contributions Disclosure
Direct Deposit Authorization

REV 1/15



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	() - Ext	Fax	() -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

**Attention: Accounts Payable, Accounting Department
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178**

DISADVANTAGED BUSINESS CERTIFICATION

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority

business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

Statements of certification:

As a prime contractor to the SCAQMD, _____ (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:

Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise |
| <input type="checkbox"/> Local business | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise | |

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____

State of California Public Works Contractor Registration No. _____ . MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

NAME TITLE

TELEPHONE NUMBER DATE

Definitions

Disabled Veteran-Owned Business Enterprise means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

Joint Venture means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

Local Business means a business that meets all of the following criteria:

- has an ongoing business within the boundary of the SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

Minority-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

“Minority” person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

Small Business Enterprise means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

Small Business Joint Venture means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

Women-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)

B—The United States or any of its agencies or instrumentalities

C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities

D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)

E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)

F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state

G—A real estate investment trust

H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940

I—A common trust fund as defined in section 584(a)

J—A bank as defined in section 581

K—A broker

L—A trust exempt from tax under section 664 or described in section 4947(a)(1)

M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1983 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ¹
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ¹
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ¹
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name

Payee

Name

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.)

City (If you have a foreign address, see instructions.)

State ZIP Code

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

- Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a Seller of California real estate. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States

TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos

TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgement rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

I am unable to certify to the above statements. My explanation is attached.

EPA Form 5700-49 (11-88)



CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before the SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website (www.aqmd.gov). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

SECTION I.

Contractor (Legal Name): _____

DBA, Name _____, County Filed in _____ Corporation, ID No. _____ LLC/LLP, ID No. _____
--

List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
(See definition below).

SECTION II.

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

Yes No **If YES, complete Section II below and then sign and date the form. If NO, sign and date below. Include this form with your submittal.**

Campaign Contributions Disclosure, continued:

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) **Parent subsidiary.** A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) **Otherwise related business entity.** Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
 - (A) **One business entity has a controlling ownership interest in the other business entity.**
 - (B) **There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:**
 - (i) **The same person or substantially the same person owns and manages the two entities;**
 - (ii) **There are common or commingled funds or assets;**
 - (iii) **The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;**
 - (iv) **There is otherwise a regular and close working relationship between the entities; or**
 - (C) **A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.**



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Direct Deposit Authorization

STEP 1: Please check all the appropriate boxes

- | | |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request |
| <input type="checkbox"/> Vendor/Contractor | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information | |

STEP 2: Payee Information

Last Name		First Name		Middle Initial	Title
Vendor/Contractor Business Name (if applicable)					
Address				Apartment or P.O. Box Number	
City			State	Zip	Country
Taxpayer ID Number		Telephone Number			Email Address

Authorization

- I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
- This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
- I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution				
	Account Holder Name(s)				
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking		Account Number		Routing Number
	Bank Representative Printed Name			Bank Representative Signature	Date
	ACCOUNT HOLDER SIGNATURE:				Date

For SCAQMD Use Only

Input By _____

Date _____

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 6

PROPOSAL: Recognize Revenue and Appropriate Funds for PM2.5 Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment and CNG Vehicle

SYNOPSIS: U.S. EPA has allocated Section 103 funds in the amount of \$762,160 for the PM2.5 Program. This action is to recognize revenue and appropriate funds for the PM2.5 Monitoring Program and issue purchase orders for air monitoring equipment and one CNG vehicle.

COMMITTEE: Administrative, April 10, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Recognize and appropriate upon receipt \$301,160 awarded by U.S. EPA for the PM2.5 Monitoring Program and into the FY 2014-15 Budget as set forth in the attachment.
2. Authorize the Procurement Manager to:
 - a. Issue a purchase order with Thermo Fisher Scientific, Inc. in an amount not to exceed \$8,500 for the purchase of an ion chromatograph autosampler as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures;
 - b. Issue a purchase order with Thermo Fisher Scientific, Inc. in an amount not to exceed \$60,000 for the purchase of three PM2.5 continuous Federal Equivalent Method (FEM) monitors as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures; and
 - c. Issue a purchase order with an approved state contract vendor in an amount not to exceed \$45,000 for the purchase of one CNG vehicle as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures.

Barry R. Wallerstein, D.Env.
Executive Officer

Background

PM2.5 Program

Since 1998, U.S. EPA has provided funds under a Section 103 Grant for a comprehensive PM2.5 Air Monitoring Program. To date, there are 20 ambient SCAQMD monitoring stations operating 23 Federal Reference Method (FRM) PM2.5 monitors under U.S. EPA funding and 17 Federal Equivalent Method (FEM) PM2.5 continuous monitors. In addition, U.S. EPA has supported the expansion of the network to collect continuous PM2.5 mass and chemical speciation at several sites within the South Coast Air Basin. This augmentation substantially adds to the fine particulate data which will help in the characterization of PM2.5 sources, current air quality conditions, and health impacts.

Proposal

PM2.5 Program

The SCAQMD anticipates a U.S. EPA award of \$762,160 in Section 103 Grant funds for the continuation of the PM2.5 Program through March 31, 2016. This action is to recognize \$762,160 upon receipt and appropriate \$301,160 into the FY 2014-15 Budget; the remaining \$461,000 has already been included in the adopted FY 2014-15 Budget.

Issue Purchase Order for Ion Chromatograph Autosampler

The U.S. EPA Section 103 Grant for SCAQMD's comprehensive PM2.5 Air Monitoring Program includes measuring the trends in PM2.5 concentration levels of selected ions, metals, carbon species and organic compounds. The SCAQMD's current ion chromatograph analyzer purchased from Thermo Fisher Scientific, Inc. is used to analyze the selected ions, but is in need of a new autosampler since technical support to repair the older one is no longer available. The new autosampler must be compatible with the ion chromatograph and its software. Staff recommends the purchase of an ion chromatography autosampler in an amount not to exceed \$8,500 to help enhance existing analytical capabilities and U.S. EPA concurs with staff's proposed expenditure. This action is to authorize the Procurement Manager to issue a sole source purchase order to Thermo Fisher Scientific, Inc. in an amount not to exceed \$8,500 as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures.

Issue Purchase Order for three FEM PM2.5 Monitors

The U.S. EPA Section 103 Grant award includes one-time funding of \$70,000 for the purchase of three FEM PM2.5 continuous monitors and flow audit devices. Many of the FEM continuous monitors in SCAQMD's PM2.5 Air Monitoring Program have been in operation since 2001 and are in need of replacement. On October 4, 2013, RFQ #Q2014-02 was released in accordance with SCAQMD's Procurement Policy and Procedure and Thermo Fisher Scientific, Inc. was chosen as the successful bidder at the conclusion of the evaluation process. Thermo Fisher Scientific, Inc. has agreed to honor the price from that RFQ process. Since the SCAQMD's Procurement Policy and Procedure allows purchases based on a prior bid or last price, this action is to authorize the Procurement Manager to issue a purchase order with Thermo Fisher Scientific, Inc.

for three FEM PM2.5 Monitors in an amount not to exceed \$60,000 as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures.

Issue Purchase Order for one CNG Vehicle

With an aging fleet of calibration and repair vehicles, staff has identified the need to replace the older high-mileage vehicles with new CNG-powered vehicles. These vehicles are essential for staff to perform routine and non-routine operation, calibration and maintenance of air monitoring equipment for air monitoring stations supporting the PM2.5 Program. Under Section IV.A.5 of the SCAQMD Procurement Policy and Procedure, the Procurement Manager shall pursue cooperative purchasing opportunities whenever possible. Dedicated CNG vehicles are available from vendors under the State of California, Department of General Services, Procurement Division, Alternative Fueled Vehicles Contract 1-14-23-23D. This action is to authorize the Procurement Manager to issue a purchase order with a vendor on the state contract award list with the most competitive price in an amount not to exceed \$45,000 for the purchase of one CNG vehicle, as budgeted in the Proposed FY 2014-15 PM2.5 Program Expenditures.

Sole Source Justification

Section VIII, B.3 of the Procurement Policy and Procedure identifies four major provisions under which a sole source award may be justified for federally funded procurement and states: For contracts funded in whole or in part with federal funds, written justification for sole source award must be provided documenting that awarding a contract is infeasible under small purchase procedures, sealed bids or competitive proposals and that one of the following circumstances applies: (a) The item is available only from a single source; (b) The public exigency or emergency for the requirement will not permit a delay resulting from competitive solicitation; (c) The awarding federal agency authorizes noncompetitive proposals; or (d) After solicitation of a number of sources, competition is determined inadequate.

The request for sole source purchase of the ion chromatography autosampler is made under Section VIII, B.3.a: The item is available only from a single source, specifically Thermo Fisher Scientific, Inc.

Resource Impacts

The total grant award expected is \$762,160, of which \$461,000 has already been included in Salaries and Benefits in the adopted FY 2014-15 Budget. Therefore, the balance of \$301,160 in revenue will be appropriated as set forth in the attachment. U.S. EPA Section 103 Grant funding will support the continuation of the PM2.5 Monitoring Program, including equipment, services and supplies necessary to meet the objectives of the Program.

Attachment

Proposed PM2.5 Program Expenditures FY 2014-15

ATTACHMENT
Proposed PM 2.5 Program Expenditures FY 2014-15

Account Description	Account Number	Program Code	Estimated Expenditures
Services & Supplies Major Object:			
Rents and Leases Structure	67350	47500	4,500
Maintenance of Equipment	67600	47500	60,000
Building Maintenance	67650	47500	26,517
Travel	67800	47500	6,000
Laboratory Supplies	68050	47500	25,000
Office Expense	68100	47500	10,643
Small Tools	68300	47500	55,000
Total Services & Supplies:			187,660
Capital Outlay Major Object:			
Ion Chromatograph Autosampler (1)	77000	47500	8,500
PM2.5 Continuous FEM Monitor (3)	77000	47500	60,000
CNG Vehicle (1)	77000	47500	45,000
Total Capital Outlay:			113,500
FY 2014-15 Appropriations			
			\$301,160
Salaries and Benefits*		44500	\$461,000
Total Award			\$ 762,160

*Salaries, Benefits, and Indirect Costs are already included in the adopted budget

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 7

PROPOSAL: Execute Lease Contract for Mailing Equipment

SYNOPSIS: On January 9, 2015, the Board approved the release of an RFQ to solicit lease proposals to replace the mailroom's United States Postal Service-compliant mailing system and to lease additional equipment for folding, inserting, and addressing mail. This action is to execute a 5-year lease agreement with Neopost Southwest District for the proposed mailing equipment.

COMMITTEE: Administrative, April 10, 2015; Recommended for Approval

RECOMMENDED ACTION:

Authorize the Executive Officer to execute a 5-year lease agreement with Neopost Southwest District, for mailing and shipping, folding, inserting, and addressing equipment, at a 5-year lease and maintenance cost of \$168,610.

Barry R. Wallerstein, D.Env.
Executive Officer

WJ:SO

Background

SCAQMD's current lease for high-volume United States Postal Service (USPS)-compliant postage and shipping equipment expires June 30, 2015. The lease also includes equipment that folds, inserts and addresses outgoing mail.

The Mail/Subscription Services staff processes all incoming and outgoing mail, including public hearing and workshop notices, Title V permit notices, etc. In 2014, staff processed 234,379 pieces of outgoing mail using the postage and shipping machine, and 183,618 pieces of mail utilizing the folding, inserting and/or addressing equipment.

In an effort to continue to save costs and increase flexibility and productivity, SCAQMD's RFQ solicitation included replacement of the existing postage and shipping system, including the folding, inserting and addressing equipment. This action is to obtain a new lease agreement for a comprehensive mailing system.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFQ and inviting bids was published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may have been notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFQ has been emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>).

Bid Evaluation

Fifteen copies of the RFQ were mailed out and three proposals, responding to one or more of the three categories included in the RFQ, were received by close of bidding at 2:00 p.m., February 11, 2015. Of the three responsive proposals, only one self-certified for off-peak hours delivery, for additional percentage points. Attachment A lists a summary of the responsive proposals.

Panel Composition

The evaluation panel consisted of a Sr. Air Quality Engineering Manager, a Mail/Subscription Services Supervisor, a Print Shop Supervisor, and a Supervising Investigator. Of the four panelists, one is Asian Indian, two are African-American, and one is Caucasian; all are male.

Proposal

This action is to execute a 5-year lease agreement with Neopost Southwest District for all three categories of mailing equipment solicited in the RFQ: high-production mailing and shipping; folding and inserting; and addressing. Neopost Southwest District was the single vendor with the lowest overall qualified proposal for all three categories with their additional percentage points.

Resource Impacts

The annual lease and maintenance cost for the high-production mailing and shipping system is \$12,829 per year, the folding and inserting system is \$14,830, and the addressing system is \$6,063, for a total annual cost of \$33,722. Sufficient funds have been requested in the FY 2015-16 Budget for the first year, and funds will be requested in subsequent budgets for the remaining four years of the lease.

Attachment

Evaluation Summary

ATTACHMENT

EVALUATION SUMMARY
RFQ# 2015-14
Mailing Equipment – 5-Year Lease

	Neopost Southwest District*	Pitney Bowes	CBE Office Solutions
Category I- Postage and Shipping	\$64,144.80	\$66,969.60	NA
Category II- Folding and Inserting	\$74,148.60	\$72,201.60	\$123,720.00
Category III- Addressing	\$30,314.40	\$38,062.80	\$30,300.00
Total 5-Year Lease	\$168,607.80	\$177,234.00	

* Neopost Southwest District self-certified Off Peak Hours Delivery, receiving a 2% preferential point reduction. For the purpose of ranking, the preferential 2% reduction results in Neopost Southwest District having the lowest total cost proposal for all three categories.

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 8

PROPOSAL: Establish New Classification of Career Development Intern

SYNOPSIS: At its March 13, 2015 meeting, the Administrative Committee approved a proposal to establish a new program at SCAQMD to expose young adults (particularly those emancipated from the foster care system) to career opportunities, and assist them in gaining skills and knowledge necessary to compete for full-time employment. This action is to add the new classification of Career Development Intern; adopt the class specification; and adopt the resolution amending the *Salary Resolution*.

COMMITTEE: Administrative, April 10, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Add the new classification of Career Development Intern.
2. Adopt the class specification (Attachment A).
3. Adopt the resolution amending the *Salary Resolution* to establish the salary for the new classification (Attachment B).

Barry R. Wallerstein, D.Env.
Executive Officer

WJ:BB

Background

In February 2015, a request was received from the Los Angeles County Board of Supervisors, urging SCAQMD to participate in a career development internship program, providing young adults who have transitioned from the foster care system with opportunities to gain invaluable on-the-job training and experience to increase their potential to successfully compete for full-time employment in today's job market.

The County of Los Angeles currently administers a Career Development Internship program for transition-aged foster youth. Since 2010, 108 young adults have participated in this program, with 70% successfully hired as permanent employees.

Proposal

The SCAQMD fully supports the establishment of an internship program to provide transition-aged foster youth with job training opportunities. Therefore, staff recommends the adoption of a new classification of Career Development Intern (Attachment A), as well as the adoption of the resolution amending the *Salary Resolution* to establish the salary for the new classification.

The youth selected for this program will have the flexibility to receive on-the-job training in one of several existing SCAQMD job classifications, for which they may not otherwise meet the minimum qualifications of education or experience. These existing classifications include:

- Fleet Services Worker I
- General Maintenance Helper
- Mail/Subscription Services Clerk
- Office Assistant
- Print Shop Duplicator
- Stock Clerk

The current job specifications for each of these classifications, which are part of the Office, Clerical and Maintenance bargaining unit, and are represented by the Teamsters Local 911, often require between six (6) and twelve (12) months minimum training and experience to qualify for these positions. Each career development internship opportunity at SCAQMD will last for approximately twelve (12) months, allowing the selected transition-aged foster youth to gain invaluable training and experience to increase their potential to compete for positions at SCAQMD or with other employers.

Resource Impacts

The addition and funding of two (2) full-time Career Development Intern positions will be requested in the FY2015-16 Budget.

Attachments

Attachment A - Classification Specification for Career Development Intern

Attachment B – Resolution Amending the Salary Resolution

ATTACHMENT A

CLASSIFICATION SPECIFICATION

TITLE: CAREER DEVELOPMENT INTERN

APPROVED:

SALARY

\$15.28 Hourly
\$1,222.40 Bi-Weekly
\$2,648.53 Monthly
\$31,782.40 Annually

DEFINITION: Under close supervision in a training capacity, performs a variety of structured, on-the-job training duties depending on the assignment. Depending on assignment, participates in entry-level work in fleet services, general maintenance, mail room, general office administration, print shop, or storekeeping.

CLASSIFICATION STANDARDS: This is a multi-position, training-level class. Incumbents participate in entry-level work in a training capacity in one of the following job classifications: Fleet Services Worker I, General Maintenance Helper, Mail Subscription Services Clerk, Office Assistant, Print Shop Duplicator, or Stock Clerk. Career Development Interns participate in a structured on-the-job training assignment in preparation for successful progression into one of the above jobs. Such jobs are not guaranteed, as they are only filled through competitive processes. Career Development Intern assignments are limited to one year. During this year, incumbents are expected to gain valuable competitive experience, knowledge, skills and abilities as they engage in the following essential job functions:

ESSENTIAL DUTIES (Depending on assignment, may include, but not be limited to):

Fleet Services Worker: Under close supervision, may remove and replace oil filters, air filters, hoses, fan belts, light bulbs, windshield wipers, or other vehicle accessories, as needed; dispense fuel to fleet and rideshare vehicles and controls the parking of vehicles in SCAQMD parking lots; load and unload vehicles operated; sort and route mail and do clerical work as required; clean automotive compound area; keep records and make reports; ensure vehicles are checked and serviced.

General Maintenance Helper: Under close supervision, may assist others in the repair of machinery and equipment and may perform less difficult tasks independently; assist in the installation and maintenance of electrical equipment such as generators, motors, transformers, switches, controls and circuits; set up machinery and tools and prepares work sites; move materials, equipment and machinery; assist in the construction and repair of structures and fixtures, painting, and installation of hardware.

Mail/Subscription Services Clerk: Under close supervision, may collect and deliver United States, private carrier, and intra-SCAQMD mail, correspondence, packages, and other materials according to established procedures and routes; sort, weigh, and determine means of mail delivery for outgoing mail and packages; pack or unpack materials; operate, maintain, and monitor postage meter machines, electronic scales, and other equipment; operate labeling and printing equipment when preparing mailing labels; assemble and insert materials for mailing; may operate a computer or word processor while making additions, deletions, and other modifications to mailing lists; research mailing list databases and compile new lists for targeted mailings.

Office Assistant: Under close supervision, may type letters, reports, charts, tables, case records, vouchers, or similar documents; proofread finished copy to correct grammar, punctuation, and spelling; process a variety of documents according to established policies and procedures; refer difficult or technical inquiries to other staff; file documents; prepare, arrange, index, cross file and maintain computerized and manual records, logs, rosters and registers; compile data for general information purposes and individual requests for special reports and projects by extracting and/or tabulating information from a variety of sources and predetermined forms or procedures; answer telephone and route incoming calls; direct individuals to appropriate offices and staff; receive, open, and time stamp mail; sort and log correspondence; deliver and pick up various materials, stuff envelopes, and assemble packages for mailing; provide a variety of basic, administrative support duties for management and supervisory personnel, as directed.

Print Shop Duplicator: Under close supervision, may set up and operate computer-controlled duplicating equipment in the production of forms, notices, reports, maps, specifications and other materials, utilizing various sizes and weights of paper, large solids, continuous tone, half-tone and line work; provide advice regarding format, layout, and machine capabilities and alternative methods of duplication; clean, lubricate, adjust and make minor repairs to equipment; perform related work, such as collating, binding, cutting, trimming, padding and punching; operate other types of duplicating equipment.

Stock Clerk: Under close supervision, may stock inventory supply items on shelves or in bins; receive, stock or store supplies, furniture, and equipment; assemble and complete requisition orders; deliver and distribute supplies, equipment, and furniture to various divisions and offices; receive supplies, equipment, and furniture delivered from vendors; move items to the stockroom and warehouse; assist in the inventory and tagging of fixed assets; assist in the disposition of surplus equipment; prepare and maintain records pertaining to the receipt, storage, and distribution of supplies, furniture, and equipment; inventory and reorder stockroom supplies as directed.

All Classes: May perform other related duties as required or assigned.

MINIMUM REQUIREMENTS:

Special Requirements: Current enrollment in, completion of, or current or past eligibility for a California County Department of Children and Family Services' and Probation Department's Independent Living Program or current enrollment in the Department of Public Works' and Probation Department's Youth Opportunity Program.

Preparation: Education, knowledge, skills, training OR experience that would demonstrate the capacity to learn and perform the essential duties of the position to which assigned.

Driver's License: Some positions in this classification, depending upon assignment, require possession of a valid California Class C Driver's License to perform job-related essential functions. Candidates offered these positions would be required to show proof of a driver's license before appointment. Some applicants for this position will be required to present a copy of his/her driving record from the California State Department of Motor Vehicles before being appointed. License must not be suspended, restricted, or revoked. An applicant whose driving record shows significant moving violations, and/or at fault accidents, may not be appointed to position that would require operation of a motor vehicle while on duty.

Americans with Disabilities Act of 1990: All positions are open to qualified men and women. Pursuant to the Americans with Disabilities Act of 1990, persons with disabilities who believe they need reasonable accommodation, or help in order to apply for a position, may contact the Human Resources

Manager over Recruitment and Selection for assistance.

Physical Classes:

General Maintenance Helper is Physical Class III – Moderate: This class requires that the incumbent stand or walk most of the time with bending, stooping, squatting, twisting, reaching, working or irregular surfaces, occasional lifting of objects weighing over 25 pounds, and frequent lifting of 10-25 pounds.

Fleet Services Worker is Physical Class III – Moderate: This class requires that the incumbent stand or walk most of the time with bending, stooping, squatting, twisting, reaching, working or irregular surfaces, occasional lifting of objects weighing over 25 pounds, and frequent lifting of 10-25 pounds.

Mail/Subscription Service Clerk is Physical Class II – Light: This class includes administrative and clerical positions requiring light physical effort, which may include occasional light lifting to a 10-pound limit, and some bending, stooping, or squatting. Considerable ambulation may be involved.

Office Assistant is Physical Class II – Light: This class includes administrative and clerical positions requiring light physical effort, which may include occasional light lifting to a 10-pound limit, and some bending, stooping, or squatting. Considerable ambulation may be involved.

Print Shop Duplicator is Physical Class III – Moderate: This class requires that the incumbent stand or walk most of the time with bending, stooping, squatting, twisting, reaching, occasional lifting of objects weighing over 70 pounds, and frequent lifting of 10-25 pounds.

Stock Clerk is Physical Class III – Moderate: This class requires that the incumbent stand or walk most of the time with bending, stooping, squatting, twisting, reaching, working or irregular surfaces, occasional lifting of objects weighing over 25 pounds, and frequent lifting of 10-25 pounds.

ATTACHMENT B

RESOLUTION NO. 15-_____

A Resolution of the South Coast Air Quality Management District Board amending SCAQMD's *Salary Resolution* to establish the new classification of Career Development Intern at an annual salary of \$31,782.40.

WHEREAS, the Governing Board of the South Coast Air Quality Management District exercises its duty to review and determine appropriate wages, hours, and other terms and conditions of employment provided to employees.

THEREFORE, BE IT RESOLVED that the Board of the South Coast Air Quality Management District, State of California, in regular session assembled on May, 1, 2015, does hereby amend SCAQMD's *Salary Resolution* to establish the new classification of Career Development Intern at an annual salary of \$31,782.40

DATE: _____

CLERK OF THE BOARDS

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 9

PROPOSAL: Issue RFP for Evaluation and Improvement of SCAQMD's Website

SYNOPSIS: On April 6, 2012, the Board approved a contract for the redesign of SCAQMD's website and the implementation of Web Content Management software. The redesigned and reorganized website, launched on May 28, 2014, provides access to all of SCAQMD's web-based content and incorporates a responsive design for mobile device viewing. This action is to issue an RFP to solicit bids from qualified firms to evaluate the current website, make recommendations for improvement, and upon approval, implement those improvements.

COMMITTEE: Administrative Committee, April 10, 2015; Recommended for Approval

RECOMMENDED ACTION:

Approve the release of the attached RFP #P2015-25 to solicit competitive bids from qualified contractors for a detailed review and evaluation of SCAQMD's website to recommend and implement improvements.

Barry R. Wallerstein, D.Env.
Executive Officer

CJM:RL

Background

SCAQMD undertook a major redesign and restructuring of its website beginning in November 2011, with the release of an RFP to redesign SCAQMD's website and implement a Web Content Management System (CMS). The goal was to create an aesthetically pleasing website with intuitive navigation to serve as a public communication tool providing easy access to information for all users, including the regulated community, the general public, other air quality agencies or environmental

organizations, and internal staff. In addition, the CMS would make the website adaptable to current and changing technology with content that could be easily maintained by SCAQMD Staff. The redesigned website was launched on May 28, 2014.

Proposal

The one-year anniversary of the launch of the redesigned website is an appropriate time to step back and reevaluate the site and its relationship with SCAQMD’s mission. How is the website being used? Is critical information reaching target audiences? Are there issues not addressed or that could be better addressed in some way? Are there improvements that can be identified and implemented to enhance the website and its role as a public communication tool? Staff recommends review and evaluation by an independent expert to provide perspective on the website as a whole and on its various parts. The resultant recommendations for improvement would be implemented upon approval by Executive Management.

The proposed schedule of events for the RFP is as follows:

Date	Event
May 1, 2015	RFP Released
May 12, 2015	Bidders’ Conference
June 2, 2015	Proposals Due by 5:00 p.m.
June 3 – 12, 2015	Proposal Evaluations
TBD	Finalist Interviews
September 4, 2015	Governing Board Approval

Outreach

In accordance with SCAQMD’s Procurement Policy and Procedure, a public notice advertising the RFP and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County’s Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may be notified utilizing SCAQMD’s own electronic listing of certified minority vendors. Notice of the RFP will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD’s website (<http://www.aqmd.gov>) where it can be viewed by making the selection “Grants & Bids.”

Bid Evaluation

Proposals will be reviewed and evaluated by a diverse, technically qualified panel in accordance with criteria contained in the attached RFP. Final contractor selection will be made by the Administrative Committee following interviews with the finalists identified by the evaluation panel.

Benefits to SCAQMD

An independent, detailed review of SCAQMD's website will benefit the SCAQMD by identifying improvements that can be implemented to maintain the site as a modern, 21st century, public communication tool. The Web has become a critical means to communicate with target audiences and the effectiveness of that communication is crucial to achieving regional goals for air quality.

Resource Impacts

The total cost has not been determined and will depend on the proposals submitted. Funds are being requested in the FY 2015-16 Budget for this effort.

Attachment

RFP #P2015-25 – Website Evaluation and Improvement



South Coast Air Quality Management District

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

REQUEST FOR PROPOSALS

Website Evaluation and Improvement

#P2015-25

The South Coast Air Quality Management District (SCAQMD) requests proposals for the following purpose according to terms and conditions attached. In the preparation of this Request for Proposals (RFP) the words "Proposer," "Contractor," and "Consultant" are used interchangeably.

PURPOSE

The purpose of this Request for Proposals (RFP) is to solicit bids from qualified firms to evaluate SCAQMD's current website, make recommendations for improvement/enhancement and, upon approval, implement those improvements. The current website (<http://www.aqmd.gov>) was deployed May 28, 2014 following a major redesign effort. That effort included the implementation of a web content management system (Telerik Sitefinity) and a reorganization of website content based on a user-oriented approach. All content that was on the previous website is accessible from the current website. The redesign effort had several goals including: reorganize web content from the user's perspective, providing easy access to information for all users (including the regulated community, general public, other air quality agencies or environmental entities and internal staff); create an aesthetically pleasing website with an intuitively accessible navigation scheme to serve as a public communication tool; better support access from mobile devices; and provide adaptability for changing web technology.

INDEX - The following are contained in this RFP:

Section I	Background/Information
Section II	Contact Person
Section III	Schedule of Events
Section IV	Participation in the Procurement Process
Section V	Statement of Work/Schedule of Deliverables
Section VI	Required Qualifications
Section VII	Proposal Submittal Requirements
Section VIII	Proposal Submission
Section IX	Proposal Evaluation/Contractor Selection Criteria
Section X	Draft Contract

Attachment A - Certifications and Representations

SECTION I: BACKGROUND/INFORMATION

The South Coast Air Quality Management District (SCAQMD) is the local government agency designated by federal and state law with the responsibility for regulating air pollution in the South Coast Air Basin. The Basin comprises Los Angeles, Orange, Riverside and the non-desert portion of San Bernardino Counties. Information Management provides a wide range of information systems and services in support of the SCAQMD’s mission.

The redesigned website was launched on May 28, 2014. The one-year anniversary of the launch of the redesigned website is a good moment to step back and reevaluate the website and its relationship with SCAQMD’s mission. How is the website being used? Is critical information reaching target audiences? Are there issues not addressed or that could be better addressed in some way? Are there improvements that can be identified and implemented to enhance the website and its role as a public communication tool?

The objective of this evaluation and improvement effort is to obtain a detailed review of the website to determine if there are improvements or enhancements that can be made to maintain the website as a modern, 21st Century communication tool.

SECTION II: CONTACT PERSON:

Questions regarding the content or intent of this RFP or on procedural matters should be addressed to:

Roberta Lewis, Information Management
SCAQMD
21865 Copley Drive
Diamond Bar, CA 91765-4178
(909) 396-3160

SECTION III: SCHEDULE OF EVENTS

May 1, 2015	RFP Released
May 12, 2015	Bidder’s Conference
June 2, 2015	Proposals Due – No Later Than 5:00 pm
June 3 – 12, 2015	Proposal Evaluations
TBD	Finalist Interviews
September 4, 2015	Governing Board Approval
September 11, 2015	Anticipated Contract Execution

SECTION IV: PARTICIPATION IN THE PROCUREMENT PROCESS

A. It is the policy of the South Coast Air Quality Management District to ensure that all businesses including minority business enterprises, women business enterprises, disabled veteran business enterprises and small businesses have a fair and equitable opportunity to compete for and participate in SCAQMD contracts.

B. Definitions:

The definition of minority, women or disadvantaged business enterprises set forth below is included for purposes of determining compliance with the affirmative steps requirement

described in Paragraph G below on procurements funded in whole or in part with federal grant funds which involve the use of subcontractors. The definition provided for disabled veteran business enterprise, local business, small business enterprise, low-emission vehicle business and off-peak hours delivery business are provided for purposes of determining eligibility for point or cost considerations in the evaluation process.

1. "Women business enterprise" (WBE) as used in this policy means a business enterprise that meets all of the following criteria:
 - a. a business that is at least 51 percent owned by one or more women, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
 - b. a business whose management and daily business operations are controlled by one or more women.
 - c. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.
2. "Disabled veteran" as used in this policy is a United States military, naval, or air service veteran with at least 10 percent service-connected disability who is a resident of California.
3. "Disabled veteran business enterprise" (DVBE) as used in this policy means a business enterprise that meets all of the following criteria:
 - a. is a sole proprietorship or partnership of which at least 51 percent is owned by one or more disabled veterans or, in the case of a publicly owned business, at least 51 percent of its stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
 - b. the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
 - c. is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.
4. "Local business" as used in this policy means a company that has an ongoing business within geographical boundaries of the SCAQMD at the time of bid or proposal submittal and performs 90% of the work related to the contract within the geographical boundaries of the SCAQMD and satisfies the requirements of subparagraph H below.

5. "Small business" as used in this policy means a business that meets the following criteria:
 - a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
 - b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 and 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.
6. "Joint ventures" as defined in this policy pertaining to certification means that one party to the joint venture is a DVBE or small business and owns at least 51 percent of the joint venture.
7. "Low-Emission Vehicle Business" as used in this policy means a company or contractor that uses low-emission vehicles in conducting deliveries to the SCAQMD. Low-emission vehicles include vehicles powered by electric, compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), ethanol, methanol, hydrogen and diesel retrofitted with particulate matter (PM) traps.
8. "Off-Peak Hours Delivery Business" as used in this policy means a company or contractor that commits to conducting deliveries to the SCAQMD during off-peak traffic hours defined as between 10:00 a.m. and 3:00 p.m.
9. "Benefits Incentive Business" as used in this policy means a company or contractor that provides janitorial, security guard or landscaping services to the SCAQMD and commits to providing employee health benefits (as defined below in Section VIII.D.2.d) for full time workers with affordable deductible and co-payment terms.
10. "Minority Business Enterprise" as used in this policy means a business that is at least 51 percent owned by one or more minority person(s), or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more or minority persons.
 - a. a business whose management and daily business operations are controlled by one or more minority persons.
 - b. a business which is a sole proprietorship, corporation, or partnership with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign-based business.

- c. "Minority person" for purposes of this policy, means a Black American, Hispanic American, Native-American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian (including a person whose origins are from India, Pakistan, and Bangladesh), Asian-Pacific-American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, and Taiwan).

11. Disadvantaged Business Enterprise" as used in this policy means a business that is an entity owned and/or controlled by a socially and economically disadvantaged individual(s) as described by Title X of the Clean Air Act Amendments of 1990 (42 U.S.C. 7601 note) (10% statute), and Public Law 102-389 (42 U.S.C. 4370d)(8% statute), respectively;

- a Small Business Enterprise (SBE);
- a Small Business in a Rural Area (SBRA);
- a Labor Surplus Area Firm (LSAF); or
- a Historically Underutilized Business (HUB) Zone Small Business Concern, or a concern under a successor program.

- C. Under Request for Quotations (RFQ), DVBEs, DVBE business joint ventures, small businesses, and small business joint ventures shall be granted a preference in an amount equal to 5% of the lowest cost responsive bid. Low-Emission Vehicle Businesses shall be granted a preference in an amount equal to 5 percent of the lowest cost responsive bid. Off-Peak Hours Delivery Businesses shall be granted a preference in an amount equal to 2 percent of the lowest cost responsive bid. Local businesses (if the procurement is not funded in whole or in part by federal grant funds) shall be granted a preference in an amount equal to 2% of the lowest cost responsive bid.
- D. Under Request for Proposals, DVBEs, DVBE joint ventures, small businesses, and small business joint ventures shall be awarded ten (10) points in the evaluation process. A non-DVBE or large business shall receive seven (7) points for subcontracting at least twenty-five (25%) of the total contract value to a DVBE and/or small business. Low-Emission Vehicle Businesses shall be awarded five (5) points in the evaluation process. On procurements which are not funded in whole or in part by federal grant funds local businesses shall receive five (5) points. Off-Peak Hours Delivery Businesses shall be awarded two (2) points in the evaluation process.
- E. SCAQMD will ensure that discrimination in the award and performance of contracts does not occur on the basis of race, color, sex, national origin, marital status, sexual preference, creed, ancestry, medical condition, or retaliation for having filed a discrimination complaint in the performance of SCAQMD contractual obligations.
- F. SCAQMD requires Contractor to be in compliance with all state and federal laws and regulations with respect to its employees throughout the term of any awarded contract, including state minimum wage laws and OSHA requirements.
- G. When contracts are funded in whole or in part by federal funds, and if subcontracts are to be let, the Contractor must comply with the following, evidencing a good faith effort to solicit disadvantaged businesses. Contractor shall submit a certification signed by an authorized official affirming its status as a MBE or WBE, as applicable, at the time of contract execution. The SCAQMD reserves the right to request documentation demonstrating compliance with the following good faith efforts prior to contract execution.

1. Ensure Disadvantaged Business Enterprises (DBEs) are made aware of contracting opportunities to the fullest extent practicable through outreach and recruitment activities. For Indian Tribal, State and Local Government recipients, this will include placing DBEs on solicitation lists and soliciting them whenever they are potential sources.
 2. Make information on forthcoming opportunities available to DBEs and arrange time frames for contracts and establish delivery schedules, where the requirements permit, in a way that encourages and facilitates participation by DBEs in the competitive process. This includes, whenever possible, posting solicitations for bids or proposals for a minimum of 30 calendar days before the bid or proposal closing date.
 3. Consider in the contracting process whether firms competing for large contracts could subcontract with DBEs. For Indian Tribal, State and Local Government recipients, this will include dividing total requirements when economically feasible into smaller tasks or quantities to permit maximum participation by DBEs in the competitive process.
 4. Encourage contracting with a consortium of DBEs when a contract is too large for one of these firms to handle individually.
 5. Using the services and assistance of the Small Business Administration and the Minority Business Development Agency of the Department of Commerce.
 6. If the prime contractor awards subcontracts, require the prime contractor to take the above steps.
- H. To the extent that any conflict exists between this policy and any requirements imposed by federal and state law relating to participation in a contract by a certified MBE/WBE/DVBE as a condition of receipt of federal or state funds, the federal or state requirements shall prevail.
- I. When contracts are not funded in whole or in part by federal grant funds, a local business preference will be awarded. For such contracts that involve the purchase of commercial off-the-shelf products, local business preference will be given to suppliers or distributors of commercial off-the-shelf products who maintain an ongoing business within the geographical boundaries of the SCAQMD. However, if the subject matter of the RFP or RFQ calls for the fabrication or manufacture of custom products, only companies performing 90% of the manufacturing or fabrication effort within the geographical boundaries of the SCAQMD shall be entitled to the local business preference.
- J. In compliance with federal fair share requirements set forth in 40 CFR Part 33, the SCAQMD shall establish a fair share goal annually for expenditures with federal funds covered by its procurement policy.

SECTION V: STATEMENT OF WORK/SCHEDULE OF DELIVERABLES

A. Statement of Work

Evaluation and proposed improvement/enhancement of SCAQMD's website should include analysis and evaluation of current and future web needs and assessment of the information architecture with recommendations for improvement.

Task 1: Website Review and Evaluation

Contractor will review SCAQMD's website focusing on content presentation, navigation structures, organizational architecture, content placement, etc. Information Management (IM) staff will help Contractor to understand the various content types used on the website and how each is displayed. In addition, IM staff will help the Contractor understand the range of visitors to SCAQMD's website in order to better understand the target audiences and their constraints. Contractor will analyze and assess the website as it relates to achieving SCAQMD's goals. Contractor will review and evaluate the results of existing web metrics from reports generated by SCAQMD's web analytics tools, surveys, customer service calls/emails, and usability results to better understand how our visitors are accessing and interacting with our website.

Deliverables:

- A detailed **evaluation methodology** that describes the methods used.
- A detailed **evaluation report** for SCAQMD's website including an assessment of the current information architecture, a review of the user experience, and an analysis of available user feedback data (including web analytics data, email logs, etc.).

Task 2: Recommendations for Improvement

Contractor will prepare a written document detailing recommendations for improving SCAQMD's website based on the review and evaluation conducted in Task 1 which should include a rational justification for each recommendation. Each recommendation should be accompanied by concrete examples with an estimated cost for implementation (including labor hours and other expenses). An overview of the recommended improvements will also be presented to SCAQMD's Executive Council and the Administrative Committee.

Deliverables:

- A **document** detailing recommended improvements with associated cost of implementation.
- An overview **presentation** of the recommended improvements.

Task 3: Implementation of Website Improvements

Upon Executive Management approval of the recommendations and in conjunction with IM staff, Contractor will prepare a list of deliverables for Task 3 based on the scope of the improvements recommended and a timeline for completion.

A. Schedule of Deliverables

Deliverables are noted above in the Statement of Work. As part of the work scope for Task 3, the Contractor will develop a detailed timeline for Task 3 deliverables.

SECTION VI: REQUIRED QUALIFICATIONS

- A. SCAQMD considers contractors who have CMS integration and implementation, information architecture development, usability testing, and graphic user interface design among their core competencies to be critical to the success of this project. In addition, the selected Contractor should demonstrate experience in creating and developing websites that employ proven techniques, methodologies, and best practice for web interaction/usability, and demonstrate the ability to work collaboratively with the SCAQMD. The level of experience as evidenced by successful implementation of projects in other similar or larger agencies is one of the crucial elements of the selection criteria. It is essential that the vendor has the ability to work well in a knowledge transfer mode, in addition to actual hands-on work.
- B. Proposer must submit the following:
1. Resumés or similar statement of qualifications of person or persons who will serve as technical and functional leads for the various project tasks.
 2. Review of similar experience with web design, development, and implementation and with available website analysis/assessment tools.
 3. Summary of proposer's general qualifications to meet required qualifications and fulfill statement of work, including additional firm personnel and resources.

SECTION VII: PROPOSAL SUBMITTAL REQUIREMENTS

Submitted proposals must follow the format outlined below and all requested information must be supplied. Failure to submit proposals in the required format will result in elimination from proposal evaluation.

Each proposal must be submitted in three separate volumes:

- Volume I - Technical Proposal
- Volume II - Cost Proposal
- Volume III - Certifications and Representations included in Attachment A to this RFP, should be executed by an authorized official of the Contractor.

A separate cover letter including the name, address, and telephone number of the Contractor, and signed by the person or persons authorized to represent the firm should accompany the proposal submission. Firm contact information as follows should also be included in the cover letter:

1. Address and telephone number of office in, or nearest to, Diamond Bar, California.
2. Name and title of firm's representative designated as contact.

A separate Table of Contents should be provided for Volumes I and II.

VOLUME I - TECHNICAL PROPOSAL

DO NOT INCLUDE ANY COST INFORMATION IN THE TECHNICAL VOLUME

Summary (Section A) - State overall approach to meeting the objectives and satisfying the scope of work to be performed, the sequence of activities, and a description of methodology or techniques to be used.

Program Schedule (Section B) - Provide projected milestones or benchmarks for submitting reports within the total time allowed.

Project Organization (Section C) - Describe the proposed management structure, program monitoring procedures, and organization of the proposed team.

Qualifications (Section D) - Describe the technical capabilities of the firm. Provide references of other similar studies performed during the last five years demonstrating ability to successfully complete the project. Include contact name, title, and telephone number for any references listed. Provide a statement of your firm's background and experience in performing similar projects for other governmental organizations.

Assigned Personnel (Section E) - Provide the following information on the staff to be assigned to this project:

1. List all key personnel assigned to the project by level and name. Provide a resume or similar statement of the qualifications of the lead person and all persons assigned to the project. Substitution of project manager or lead personnel will not be permitted without prior written approval of SCAQMD.
2. Provide a spreadsheet of the labor hours proposed for each labor category at the task level.
3. Provide a statement indicating whether or not 90% of the work will be performed within the geographical boundaries of the SCAQMD.
4. Provide a statement of the education and training program provided by, or required of, the staff identified for participation in the project, particularly with reference to management consulting, governmental practices and procedures, and technical matters.
5. Provide a summary of your firm's general qualifications to meet required qualifications and fulfill statement of work, including additional firm personnel and resources beyond those who may be assigned to the project.

Subcontractors (Section F) - This project may require expertise in multiple technical areas. List any subcontractors that may be used and the work to be performed by them.

Conflict of Interest (Section G) - Address possible conflicts of interest with other clients affected by actions performed by the firm on behalf of SCAQMD. Although the Proposer will not be automatically disqualified by reason of work performed for such firms, SCAQMD reserves the right to consider the nature and extent of such work in evaluating the proposal.

Additional Data (Section H) - Provide other essential data that may assist in the evaluation of this proposal.

VOLUME II - COST PROPOSAL

Name and Address - The Cost Proposal must list the name and complete address of the Proposer in the upper left-hand corner.

Cost Proposal – SCAQMD anticipates awarding a time and materials contract. Cost information must be provided as listed below:

1. Detail must be provided by the following categories:
 - A. Labor - List the total number of hours and the hourly billing rate for each level of professional staff. A breakdown of the proposed billing rates must identify the direct labor rate, overhead rate and amount, fringe benefit rate and amount, General and Administrative rate and amount, and proposed profit or fee. Provide a basis of estimate justifying the proposed labor hours and proposed labor mix.
 - B. Subcontractor Costs - List subcontractor costs and identify subcontractors by name. Itemize subcontractor charges per hour or per day.
 - C. Travel Costs - Indicate amount of travel cost and basis of estimate to include trip destination, purpose of trip, length of trip, airline fare or mileage expense, per diem costs, lodging and car rental.
 - D. Other Direct Costs -This category may include such items as postage and mailing expense, printing and reproduction costs, etc. Provide a basis of estimate for these costs.

VOLUME III - CERTIFICATIONS AND REPRESENTATIONS (see Attachment A to this RFP)

SECTION VIII: PROPOSAL SUBMISSION

All proposals must be submitted according to specifications set forth in the section above. Failure to adhere to these specifications may be cause for rejection of proposal.

Signature - All proposals should be signed by an authorized representative of the Proposer.

Due Date - The Proposer shall submit eight (8) complete copies of the proposal in a sealed envelope, plainly marked in the upper left-hand corner with the name and address of the Proposer and the words "Request for Proposals #2015-25." **All proposals are due no later than 5:00 p.m., June 2, 2015, and should be directed to:**

Procurement Unit
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
(909) 396-3520

Late bids/proposals will not be accepted under any circumstances.

Grounds for Rejection - A proposal may be immediately rejected if:

- It is not prepared in the format described, or
- It is signed by an individual not authorized to represent the firm.

Modification or Withdrawal - Once submitted, proposals cannot be altered without the prior written consent of SCAQMD. All proposals shall constitute firm offers and may not be withdrawn for a period of ninety (90) days following the last day to accept proposals.

SECTION IX: PROPOSAL EVALUATION/CONTRACTOR SELECTION CRITERIA

- A. Proposals will be evaluated by a panel of three to five SCAQMD staff members familiar with the subject matter of the project. The panel shall be appointed by the Executive Officer or his designee. In addition, the evaluation panel may include such outside public sector or academic community expertise as deemed desirable by the Executive Officer. The panel will make a recommendation to the Executive Officer and/or the Governing Board of the SCAQMD for final selection of a contractor and negotiation of a contract.
- B. Each member of the evaluation panel shall be accorded equal weight in his or her rating of proposals. The evaluation panel members shall evaluate the proposals according to the specified criteria and numerical weightings set forth below.

1. Proposal Evaluation Criteria

(a) R&D Projects Requiring Technical or Scientific Expertise, or Special Projects Requiring Unique Knowledge or Abilities

Understanding the Problem	10
Technical/Management Approach	20
Contractor Qualifications	30
Previous Experience on Similar Projects	10
Cost	<u>30</u>
TOTAL	100

(b) Additional Points

Attendance at the May 12, 2015 Bidder's Conference	5
Small Business or Small Business Joint Venture	10
DVBE or DVBE Joint Venture	10
Use of DVBE or Small Business Subcontractors	7
Low-Emission Vehicle Business	5
Local Business (Non-Federally Funded Projects Only)	5
Off-Peak Hours Delivery Business	2

The cumulative points awarded for small business, DVBE, use of small business or DVBE subcontractors, low-emission vehicle business, local business, and off-peak hours delivery business shall not exceed 15 points.

Additionally, an extra 5 points will be awarded for attending the May 12, 2015 Bidder's Conference.

Self-Certification for Additional Points

The award of these additional points shall be contingent upon Proposer completing the Self-Certification section of Attachment A – Certifications and Representations and/or inclusion of a statement in the proposal self-certifying that Proposer qualifies for additional points as detailed above.

2. To receive additional points in the evaluation process for the categories of Small Business or Small Business Joint Venture, DVBE or DVBE Joint Venture or Local Business (for non-federally funded projects), the proposer must submit a self-certification or certification from the State of California Office of Small Business Certification and Resources at the time of proposal submission certifying that the proposer meets the requirements set forth in Section III. To receive points for the use of DVBE and/or Small Business subcontractors, at least 25 percent of the total contract value must be subcontracted to DVBEs and/or Small Businesses. To receive points as a Low-Emission Vehicle Business, the proposer must demonstrate to the Executive Officer, or designee, that supplies and materials delivered to the SCAQMD are delivered in vehicles that operate on either clean-fuels or if powered by diesel fuel, that the vehicles have particulate traps installed. To receive points as an Off-Peak Hours Delivery Business, the proposer must submit, at proposal submission, certification of its commitment to delivering supplies and materials to SCAQMD between the hours of 10:00 a.m. and 3:00 p.m. The cumulative points awarded for small business, DVBE, use of Small Business or DVBE Subcontractors, Local Business, Low-Emission Vehicle Business and Off-Peak Hour Delivery Business shall not exceed 15 points.

The Procurement Section will be responsible for monitoring compliance of suppliers awarded purchase orders based upon use of low-emission vehicles or off-peak traffic hour delivery commitments through the use of vendor logs which will identify the contractor awarded the incentive. The purchase order shall incorporate terms which obligate the supplier to deliver materials in low-emission vehicles or deliver during off-peak traffic hours. The Receiving department will monitor those qualified supplier deliveries to ensure compliance to the purchase order requirements. Suppliers in non-compliance will be subject to a two percent of total purchase order value penalty. The Procurement Manager will adjudicate any disputes regarding either low-emission vehicle or off-peak hour deliveries.

3. For procurement of Research and Development (R & D) projects or projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, technical factors including past experience shall be weighted at 70 points and cost shall be weighted at 30 points. A proposal must receive at least 56 out of 70 points on R & D projects and projects requiring technical or scientific expertise or special projects requiring unique knowledge and abilities, in order to be deemed qualified for award.

4. The lowest cost proposal will be awarded the maximum cost points available and all other cost proposals will receive points on a prorated basis. For example if the lowest cost proposal is \$1,000 and the maximum points available are 30 points, this proposal would receive the full 30 points. If the next lowest cost proposal is \$1,100 it would receive 27 points reflecting the fact that it is 10% higher than the lowest cost (90% of 30 points = 27 points).
- C. The evaluation panel will identify the top three proposers who will be interviewed by the Governing Board's Administrative Committee. No new material will be permitted during the interview. Additional information provided during the bid review process is limited to clarification by the Proposer of information presented in his/her proposal, upon request by SCAQMD. The Administrative Committee will make the final selection.
- D. The Executive Officer or Governing Board may award the contract to a Proposer other than the Proposer receiving the highest rating in the event the Governing Board determines that another Proposer from among those technically qualified would provide the best value to SCAQMD considering cost and technical factors. The determination shall be based solely on the Evaluation Criteria contained in the Request for Proposal (RFP), on evidence provided in the proposal and on any other evidence provided during the bid review process.
- E. Selection will be made based on the above-described criteria and rating factors. The selection will be made by and is subject to Executive Officer or Governing Board approval. Proposers may be notified of the results by letter.
- F. The Governing Board has approved a Bid Protest Procedure which provides a process for a bidder or prospective bidder to submit a written protest to the SCAQMD Procurement Manager in recognition of two types of protests: Protest Regarding Solicitation and Protest Regarding Award of a Contract. Copies of the Bid Protest Policy can be secured through a request to the SCAQMD Procurement Department.
- G. The Executive Officer or Governing Board may award contracts to more than one proposer if in (his or their) sole judgment the purposes of the (contract or award) would best be served by selecting multiple proposers.
- H. If additional funds become available, the Executive Officer or Governing Board may increase the amount awarded. The Executive Officer or Governing Board may also select additional proposers for a grant or contract if additional funds become available.
- I. Disposition of Proposals – Pursuant to the District's Procurement Policy and Procedure, SCAQMD reserves the right to reject any or all proposals. All proposals become the property of SCAQMD, and are subject to the California Public Records Act. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.
- J. **If proposal submittal is for a Public Works project as defined by State of California Labor Code Section 1720, Proposer is required to include Contractor Registration No. in Attachment A. Proposal submittal will be deemed as non-responsive and bidder may be disqualified if Contractor Registration No. is not included in Attachment A. Proposer is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28).**

SECTION X: DRAFT CONTRACT (Provided as a sample only)



South Coast Air Quality Management District

This Contract consists of *** pages.

1. PARTIES - The parties to this Contract are the South Coast Air Quality Management District (referred to here as "SCAQMD") whose address is 21865 Copley Drive, Diamond Bar, California 91765-4178, and *** (referred to here as "CONTRACTOR") whose address is ***.
2. RECITALS
 - A. SCAQMD is the local agency with primary responsibility for regulating stationary source air pollution within the geographical boundaries of the South Coast Air Quality Management District in the State of California. SCAQMD desires to contract with CONTRACTOR for services described in Attachment 1 - Statement of Work, attached here and made a part here by this reference. CONTRACTOR warrants that it is well-qualified and has the experience to provide such services on the terms set forth here.
 - B. CONTRACTOR is authorized to do business in the State of California and attests that it is in good tax standing with the California Franchise Tax Board.
 - C. All parties to this Contract have had the opportunity to have this Contract reviewed by their attorney.
3. PERFORMANCE REQUIREMENTS
 - A. CONTRACTOR agrees to obtain and maintain the required licenses, permits, and all other appropriate legal authorizations from all applicable federal, state and local jurisdictions and pay all applicable fees. CONTRACTOR further agrees to immediately notify SCAQMD in writing of any change in its licensing status which has a material impact on the CONTRACTOR's performance under this Contract.
 - B. CONTRACTOR shall submit reports to SCAQMD as outlined in Attachment 1 - Statement of Work. All reports shall be submitted in an environmentally friendly format: recycled paper; stapled, not bound; black and white, double-sided print; and no three-ring, spiral, or plastic binders or cardstock covers. SCAQMD reserves the right to review, comment, and request changes to any report produced as a result of this Contract.
 - C. CONTRACTOR shall perform all tasks set forth in Attachment 1 - Statement of Work, and shall not engage, during the term of this Contract, in any performance of work that is in direct or indirect conflict with duties and responsibilities set forth in Attachment 1 - Statement of Work.
 - D. CONTRACTOR shall be responsible for exercising the degree of skill and care customarily required by accepted professional practices and procedures subject to SCAQMD's final approval which SCAQMD will not unreasonably withhold. Any costs incurred due to the failure to meet the foregoing standards, or otherwise defective services which require re-performance, as directed by SCAQMD, shall be the responsibility of CONTRACTOR. CONTRACTOR's failure to achieve the performance goals and objectives stated in Attachment 1- Statement of Work, is not a basis for requesting re-performance unless work conducted by CONTRACTOR is deemed by SCAQMD to have failed the foregoing standards of performance.
 - E. CONTRACTOR shall post a performance bond in the amount of *** Dollars (\$***) from a surety authorized to issue such bonds within the State. [OPTIONAL]
 - F. SCAQMD has the right to review the terms and conditions of the performance bond and to request modifications thereto which will ensure that SCAQMD will be compensated in the event CONTRACTOR fails to perform and also provides SCAQMD with the opportunity to review the qualifications of the entity

designated by the issuer of the performance bond to perform in CONTRACTOR's absence and, if necessary, the right to reject such entity. [OPTIONAL]

G. CONTRACTOR shall require its subcontractors to abide by the requirements set forth in this Contract.

4. TERM - The term of this Contract is from the date of execution by both parties (or insert date) to ***, unless further extended by amendment of this Contract in writing. No work shall commence until this Contract is fully executed by all parties. [Remove this last sentence if Pre-Contract Clause is used]

5. TERMINATION

A. In the event any party fails to comply with any term or condition of this Contract, or fails to provide services in the manner agreed upon by the parties, including, but not limited to, the requirements of Attachment 1 – Statement of Work, this failure shall constitute a breach of this Contract. The non-breaching party shall notify the breaching party that it must cure this breach or provide written notification of its intention to terminate this contract. Notification shall be provided in the manner set forth in Clause 12. The non-breaching party reserves all rights under law and equity to enforce this contract and recover damages.

B. SCAQMD reserves the right to terminate this Contract, in whole or in part, without cause, upon thirty (30) days' written notice. Once such notice has been given, CONTRACTOR shall, except as and to the extent or directed otherwise by SCAQMD, discontinue any Work being performed under this Contract and cancel any of CONTRACTOR's orders for materials, facilities, and supplies in connection with such Work, and shall use its best efforts to procure termination of existing subcontracts upon terms satisfactory to SCAQMD. Thereafter, CONTRACTOR shall perform only such services as may be necessary to preserve and protect any Work already in progress and to dispose of any property as requested by SCAQMD.

C. CONTRACTOR shall be paid in accordance with this Contract for all Work performed before the effective date of termination under Clause 5.B. Before expiration of the thirty (30) days' written notice, CONTRACTOR shall promptly deliver to SCAQMD all copies of documents and other information and data prepared or developed by CONTRACTOR under this Contract with the exception of a record copy of such materials, which may be retained by CONTRACTOR.

6. STOP WORK – SCAQMD may, at any time, by written notice to CONTRACTOR, require CONTRACTOR to stop all or any part of the work tasks in this Contract. A stop work order may be issued for reasons including, but not limited to, the project exceeding the budget, out of scope work, delay in project schedule, or misrepresentations. Upon receipt of the stop work order, CONTRACTOR shall immediately take all necessary steps to comply with the order. CONTRACTOR shall resume the work only upon receipt of written instructions from SCAQMD cancelling the stop work order. CONTRACTOR agrees and understands that CONTRACTOR will not be paid for performing work while the stop work order is in effect, unless SCAQMD agrees to do so in its written cancellation of the stop work order.

7. INSURANCE

A. CONTRACTOR shall furnish evidence to SCAQMD of workers' compensation insurance for each of its employees, in accordance with either California or other states' applicable statutory requirements prior to commencement of any work on this Contract.

B. CONTRACTOR shall furnish evidence to SCAQMD of general liability insurance with a limit of at least \$1,000,000 per occurrence, and \$2,000,000 in a general aggregate prior to commencement of any work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.

- C. CONTRACTOR shall furnish evidence to SCAQMD of automobile liability insurance with limits of at least \$100,000 per person and \$300,000 per accident for bodily injuries, and \$50,000 in property damage, or \$1,000,000 combined single limit for bodily injury or property damage, prior to commencement of any work on this Contract. SCAQMD shall be named as an additional insured on any such liability policy, and thirty (30) days written notice prior to cancellation of any such insurance shall be given by CONTRACTOR to SCAQMD.
 - D. CONTRACTOR shall furnish evidence to SCAQMD of Professional Liability Insurance with an aggregate limit of not less than \$5,000,000. [OPTIONAL]
 - E. If CONTRACTOR fails to maintain the required insurance coverage set forth above, SCAQMD reserves the right either to purchase such additional insurance and to deduct the cost thereof from any payments owed to CONTRACTOR or terminate this Contract for breach.
 - F. All insurance certificates should be mailed to: SCAQMD Risk Management, 21865 Copley Drive, Diamond Bar, CA 91765-4178. **The SCAQMD Contract Number must be included on the face of the certificate.**
 - G. CONTRACTOR must provide updates on the insurance coverage throughout the term of the Contract to ensure that there is no break in coverage during the period of contract performance. Failure to provide evidence of current coverage shall be grounds for termination for breach of Contract.
8. INDEMNIFICATION - CONTRACTOR agrees to hold harmless, defend and indemnify SCAQMD, its officers, employees, agents, representatives, and successors-in-interest against any and all loss, damage, costs, lawsuits, claims, demands, causes of action judgments, attorney's fees, or any other expenses arising from or related to any third party claim against SCAQMD, its officers, employees, agents, representatives, or successors in interest that arise or result in whole or in part, from any actual or alleged act or omission of CONTRACTOR, its employees, subcontractors, agents or representatives in the performance of this Contract. This Indemnification Clause shall survive the expiration or termination (for any reason) of the Contract and shall remain in full force and effect.
9. RECORDS RETENTION, ON-SITE INSPECTIONS AND AUDIT
- A. CONTRACTOR agrees to the following Records Retention Period: maintain records related to this Contract during the Contract term and continue to retain these records for a period of three years beyond the Contract term.
 - B. SCAQMD, or its designee(s), shall have the right to conduct on-site inspections of the project and to audit records related to this Contract during the Records Retention Period. CONTRACTOR agrees to include a similar right for SCAQMD to conduct on-site inspections and audits in any related subcontract.
 - C. If an amount is found to be inappropriately expended, SCAQMD may withhold payment, or seek reimbursement, from CONTRACTOR in the amount equal to the amount which was inappropriately expended. Such withholding or reimbursement shall not be construed as SCAQMD's sole remedy and shall not relieve CONTRACTOR of its obligation to perform under the terms of this Contract.
10. CO-FUNDING [USE IF REQUIRED]
- A. CONTRACTOR shall obtain co-funding as follows: ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); ***, ***, Dollars (\$***); and ***, ***, Dollars (\$***).
 - B. If CONTRACTOR fails to obtain co-funding in the amount(s) referenced above, then SCAQMD reserves the right to renegotiate or terminate this Contract.
 - C. CONTRACTOR shall provide co-funding in the amount of ***, Dollars (\$***) for this project. If CONTRACTOR fails to provide this co-funding, then SCAQMD reserves the right to renegotiate or terminate this Contract.

11. PAYMENT

[FIXED PRICE]

- A. SCAQMD shall pay CONTRACTOR a fixed price of *** Dollars (\$***) for work performed under this Contract in accordance with Attachment 2 - Payment Schedule, attached here and included here by reference. Payment shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an invoice prepared and furnished by CONTRACTOR showing services performed and referencing tasks and deliverables as shown in Attachment 1 - Statement of Work, and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: ***.
- B. An amount equal to ten percent (10%) shall be withheld from all charges paid until satisfactory completion and final acceptance of work by SCAQMD. *[OPTIONAL]*
- C. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD's sole judgment.

[T & M].

- A. SCAQMD shall pay CONTRACTOR a total not to exceed amount of *** Dollars (\$***), including any authorized travel-related expenses, for time and materials at rates in accordance with Attachment 2 – Cost Schedule, attached here and included here by this reference. Payment of charges shall be made by SCAQMD to CONTRACTOR within thirty (30) days after approval by SCAQMD of an itemized invoice prepared and furnished by CONTRACTOR referencing line item expenditures as listed in Attachment 2 and the amount of charge claimed. Each invoice must be prepared in duplicate, on company letterhead, and list SCAQMD's Contract number, period covered by invoice, and CONTRACTOR's social security number or Employer Identification Number and submitted to: South Coast Air Quality Management District, Attn: ***.
- B. CONTRACTOR shall adhere to total tasks and/or cost elements (cost category) expenditures as listed in Attachment 2. Reallocation of costs between tasks and/or cost category expenditures is permitted up to One Thousand Dollars (\$1,000) upon prior written approval from SCAQMD. Reallocation of costs in excess of One Thousand Dollars (\$1,000) between tasks and/or cost category expenditures requires an amendment to this Contract.
- C. SCAQMD's payment of invoices shall be subject to the following limitations and requirements:
 - i) Charges for equipment, material, and supply costs, travel expenses, subcontractors, and other charges, as applicable, must be itemized by CONTRACTOR. Reimbursement for equipment, material, supplies, subcontractors, and other charges shall be made at actual cost. Supporting documentation must be provided for all individual charges (with the exception of direct labor charges provided by CONTRACTOR). SCAQMD's reimbursement of travel expenses and requirements for supporting documentation are listed below.
 - ii) CONTRACTOR's failure to provide receipts shall be grounds for SCAQMD's non-reimbursement of such charges. SCAQMD may reduce payments on invoices by those charges for which receipts were not provided.
 - iii) SCAQMD shall not pay interest, fees, handling charges, or cost of money on Contract.
- D. SCAQMD shall reimburse CONTRACTOR for travel-related expenses only if such travel is expressly set forth in Attachment 2 – Cost Schedule of this Contract or pre-authorized by SCAQMD in writing.
 - i) SCAQMD's reimbursement of travel-related expenses shall cover lodging, meals, other incidental expenses, and costs of transportation subject to the following limitations:
 - Air Transportation - Coach class rate for all flights. If coach is not available, business class rate is permissible.
 - Car Rental - A compact car rental. A mid-size car rental is permissible if car rental is shared by three or more individuals.

Lodging - Up to One Hundred Fifty Dollars (\$150) per night. A higher amount of reimbursement is permissible if pre-approved by SCAQMD.

Meals - Daily allowance is Fifty Dollars (\$50.00).

ii) Supporting documentation shall be provided for travel-related expenses in accordance with the following requirements:

Lodging, Airfare, Car Rentals - Bill(s) for actual expenses incurred.

Meals - Meals billed in excess of \$50.00 each day require receipts or other supporting documentation for the total amount of the bill and must be approved by SCAQMD.

Mileage - Beginning each January 1, the rate shall be adjusted effective February 1 by the Chief Financial Officer based on the Internal Revenue Service Standard Mileage Rate.

Other travel-related expenses - Receipts are required for all individual items.

E. SCAQMD reserves the right to disallow charges when the invoiced services are not performed satisfactorily in SCAQMD's sole judgment.

12. INTELLECTUAL PROPERTY RIGHTS - Title and full ownership rights to any software, documents, or reports developed under this Contract shall at all times remain with SCAQMD. Such material is agreed to be SCAQMD proprietary information.

A. Rights of Technical Data - SCAQMD shall have the unlimited right to use technical data, including material designated as a trade secret, resulting from the performance of services by CONTRACTOR under this Contract. CONTRACTOR shall have the right to use technical data for its own benefit.

B. Copyright - CONTRACTOR agrees to grant SCAQMD a royalty-free, nonexclusive, irrevocable license to produce, translate, publish, use, and dispose of all copyrightable material first produced or composed in the performance of this Contract.

13. NOTICES - Any notices from either party to the other shall be given in writing to the attention of the persons listed below, or to other such addresses or addressees as may hereafter be designated in writing for notices by either party to the other. Notice shall be given by certified, express, or registered mail, return receipt requested, and shall be effective as of the date of receipt indicated on the return receipt card.

SCAQMD: South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178
Attn: ***

CONTRACTOR: ***

Attn: ***

14. INDEPENDENT CONTRACTOR - CONTRACTOR is an independent contractor. CONTRACTOR, its officers, employees, agents, representatives, or subcontractors shall in no sense be considered employees or agents of SCAQMD, nor shall CONTRACTOR, its officers, employees, agents, representatives, or subcontractors be entitled to or eligible to participate in any benefits, privileges, or plans, given or extended by SCAQMD to its employees. SCAQMD will not supervise, direct, or have control over, or be responsible for, CONTRACTOR's or subcontractor's means, methods, techniques, work sequences or procedures or for the safety precautions and programs incident thereto, or for any failure by them to comply with any local, state, or federal laws, or rules or regulations, including state minimum wage laws and OSHA requirements.

CONTRACTOR shall promptly notify SCAQMD of any material changes to subcontracts that affect the Contract's scope of work, deliverable schedule, and/or payment/cost schedule.

15. CONFIDENTIALITY - It is expressly understood and agreed that SCAQMD may designate in a conspicuous manner the information which CONTRACTOR obtains from SCAQMD as confidential. CONTRACTOR agrees to:

- A. Observe complete confidentiality with respect to such information, including without limitation, agreeing not to disclose or otherwise permit access to such information by any other person or entity in any manner whatsoever, except that such disclosure or access shall be permitted to employees or subcontractors of CONTRACTOR requiring access in fulfillment of the services provided under this Contract.
- B. Ensure that CONTRACTOR's officers, employees, agents, representatives, and independent contractors are informed of the confidential nature of such information and to assure by agreement or otherwise that they are prohibited from copying or revealing, for any purpose whatsoever, the contents of such information or any part thereof, or from taking any action otherwise prohibited under this clause.
- C. Not use such information or any part thereof in the performance of services to others or for the benefit of others in any form whatsoever whether gratuitously or for valuable consideration, except as permitted under this Contract.
- D. Notify SCAQMD promptly and in writing of the circumstances surrounding any possession, use, or knowledge of such information or any part thereof by any person or entity other than those authorized by this clause.
- E. Take at CONTRACTOR expense, but at SCAQMD's option and in any event under SCAQMD's control, any legal action necessary to prevent unauthorized use of such information by any third party or entity which has gained access to such information at least in part due to the fault of CONTRACTOR.
- F. Take any and all other actions necessary or desirable to assure such continued confidentiality and protection of such information.
- G. Prevent access to such information by any person or entity not authorized under this Contract.
- H. Establish specific procedures in order to fulfill the obligations of this clause.
- I. Notwithstanding the above, nothing herein is intended to abrogate or modify the provisions of Government Code Section 6250 et.seq. (Public Records Act).

16. PUBLICATION

- A. SCAQMD shall have the right of prior written approval of any document which shall be disseminated to the public by CONTRACTOR in which CONTRACTOR utilized information obtained from SCAQMD in connection with performance under this Contract.
- B. Information, data, documents, or reports developed by CONTRACTOR for SCAQMD, pursuant to this Contract, shall be part of SCAQMD public record unless otherwise indicated. CONTRACTOR may use or publish, at its own expense, such information provided to SCAQMD. The following acknowledgment of support and disclaimer must appear in each publication of materials, whether copyrighted or not, based upon or developed under this Contract.

"This report was prepared as a result of work sponsored, paid for, in whole or in part, by the South Coast Air Quality Management District (SCAQMD). The opinions, findings, conclusions, and recommendations are those of the author and do not necessarily represent the views of SCAQMD. SCAQMD, its officers, employees, contractors, and subcontractors make no warranty, expressed or implied, and assume no legal liability for the information in this report. SCAQMD has not approved or disapproved this report, nor has SCAQMD passed upon the accuracy or adequacy of the information contained herein."

C. CONTRACTOR shall inform its officers, employees, and subcontractors involved in the performance of this Contract of the restrictions contained herein and require compliance with the above.

17. NON-DISCRIMINATION - In the performance of this Contract, CONTRACTOR shall not discriminate in recruiting, hiring, promotion, demotion, or termination practices on the basis of race, religious creed, color, national origin, ancestry, sex, age, or physical or mental disability and shall comply with the provisions of the California Fair Employment & Housing Act (Government Code Section 12900 et seq.), the Federal Civil Rights Act of 1964 (P.L. 88-352) and all amendments thereto, Executive Order No. 11246 (30 Federal Register 12319), and all administrative rules and regulations issued pursuant to said Acts and Order.
18. SOLICITATION OF EMPLOYEES - CONTRACTOR expressly agrees that CONTRACTOR shall not, during the term of this Contract, nor for a period of six months after termination, solicit for employment, whether as an employee or independent contractor, any person who is or has been employed by SCAQMD during the term of this Contract without the consent of SCAQMD.
19. PROPERTY AND SECURITY - Without limiting CONTRACTOR obligations with regard to security, CONTRACTOR shall comply with all the rules and regulations established by SCAQMD for access to and activity in and around SCAQMD premises.
20. ASSIGNMENT - The rights granted hereby may not be assigned, sold, licensed, or otherwise transferred by either party without the prior written consent of the other, and any attempt by either party to do so shall be void upon inception.
21. NON-EFFECT OF WAIVER - The failure of CONTRACTOR or SCAQMD to insist upon the performance of any or all of the terms, covenants, or conditions of this Contract, or failure to exercise any rights or remedies hereunder, shall not be construed as a waiver or relinquishment of the future performance of any such terms, covenants, or conditions, or of the future exercise of such rights or remedies, unless otherwise provided for herein.
22. ATTORNEYS' FEES - In the event any action is filed in connection with the enforcement or interpretation of this Contract, each party shall bear its own attorneys' fees and costs.
23. FORCE MAJEURE - Neither SCAQMD nor CONTRACTOR shall be liable or deemed to be in default for any delay or failure in performance under this Contract or interruption of services resulting, directly or indirectly, from acts of God, civil or military authority, acts of public enemy, war, strikes, labor disputes, shortages of suitable parts, materials, labor or transportation, or any similar cause beyond the reasonable control of SCAQMD or CONTRACTOR.
24. SEVERABILITY - In the event that any one or more of the provisions contained in this Contract shall for any reason be held to be unenforceable in any respect by a court of competent jurisdiction, such holding shall not affect any other provisions of this Contract, and the Contract shall then be construed as if such unenforceable provisions are not a part hereof.
25. HEADINGS - Headings on the clauses of this Contract are for convenience and reference only, and the words contained therein shall in no way be held to explain, modify, amplify, or aid in the interpretation, construction, or meaning of the provisions of this Contract.
26. DUPLICATE EXECUTION - This Contract is executed in duplicate. Each signed copy shall have the force and effect of an original.

27. GOVERNING LAW - This Contract shall be construed and interpreted and the legal relations created thereby shall be determined in accordance with the laws of the State of California. Venue for resolution of any disputes under this Contract shall be Los Angeles County, California.
28. PRE-CONTRACT COSTS - Any costs incurred by CONTRACTOR prior to CONTRACTOR receipt of a fully executed Contract shall be incurred solely at the risk of the CONTRACTOR. In the event that a formal Contract is not executed, the SCAQMD shall not be liable for any amounts expended in anticipation of a formal Contract. If a formal Contract does result, pre-contract cost expenditures authorized by the Contract will be reimbursed in accordance with the Payment/Cost Schedule and payment provision of the Contract[**OPTIONAL**]
29. CITIZENSHIP AND ALIEN STATUS
- A. CONTRACTOR warrants that it fully complies with all laws regarding the employment of aliens and others, and that its employees performing services hereunder meet the citizenship or alien status requirements contained in federal and state statutes and regulations including, but not limited to, the Immigration Reform and Control Act of 1986 (P.L. 99-603). CONTRACTOR shall obtain from all covered employees performing services hereunder all verification and other documentation of employees' eligibility status required by federal statutes and regulations as they currently exist and as they may be hereafter amended. CONTRACTOR shall have a continuing obligation to verify and document the continuing employment authorization and authorized alien status of employees performing services under this Contract to insure continued compliance with all federal statutes and regulations. Notwithstanding the above, CONTRACTOR, in the performance of this Contract, shall not discriminate against any person in violation of 8 USC Section 1324b.
 - B. CONTRACTOR shall retain such documentation for all covered employees for the period described by law. CONTRACTOR shall indemnify, defend, and hold harmless SCAQMD, its officers and employees from employer sanctions and other liability which may be assessed against CONTRACTOR or SCAQMD, or both in connection with any alleged violation of federal statutes or regulations pertaining to the eligibility for employment of persons performing services under this Contract.
30. REQUIREMENT FOR FILING STATEMENT OF ECONOMIC INTERESTS - In accordance with the Political Reform Act of 1974 (Government Code Sec. 81000 et seq.) and regulations issued by the Fair Political Practices Commission (FPPC), SCAQMD has determined that the nature of the work to be performed under this Contract requires CONTRACTOR to submit a Form 700, Statement of Economic Interests for Designated Officials and Employees, for each of its employees assigned to work on this Contract. These forms may be obtained from SCAQMD's District Counsels' office.[**OPTIONAL**]
31. COMPLIANCE WITH SINGLE AUDIT ACT REQUIREMENTS [**OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH FOR-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING**] - During the term of the Contract, and for a period of three (3) years from the date of Contract expiration, and if requested in writing by the SCAQMD, CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

[OPTIONAL - TO BE INCLUDED IN CONTRACTS WITH NON-PROFIT CONTRACTORS WHICH HAVE FEDERAL PASS-THROUGH FUNDING] - Beginning with CONTRACTOR's current fiscal year and continuing through the term of this Contract, CONTRACTOR shall have a single or program-specific audit conducted in accordance with the requirements of the Office of Management and Budget (OMB) Circular A-133 (Audits of States, Local Governments and Non-Profit Organizations), if CONTRACTOR expended Five Hundred Thousand Dollars (\$500,000) or more in a year in Federal Awards. Such audit shall be conducted by a firm of independent accountants in accordance with Generally Accepted Government Audit Standards (GAGAS). Within thirty (30) days of Contract execution, CONTRACTOR shall forward to SCAQMD the most recent A-133 Audit Report issued by its independent auditors. Subsequent A-133 Audit Reports shall be submitted to the SCAQMD within thirty (30) days of issuance.

CONTRACTOR shall allow the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency, access during normal business hours to all records and reports related to the work performed under this Contract. CONTRACTOR assumes sole responsibility for reimbursement to the Federal Agency funding the prime grant or contract, a sum of money equivalent to the amount of any expenditures disallowed should the SCAQMD, its designated representatives and/or the cognizant Federal Audit Agency rule through audit exception or some other appropriate means that expenditures from funds allocated to the CONTRACTOR were not made in compliance with the applicable cost principles, regulations of the funding agency, or the provisions of this Contract.

32. OPTION TO EXTEND THE TERM OF THE CONTRACT - SCAQMD reserves the right to extend the contract for a one-year period commencing ***** (enter date) at the (option price or Not-to-Exceed Amount) set forth in Attachment 2. In the event that SCAQMD elects to extend the contract, a written notice of its intent to extend the contract shall be provided to CONTRACTOR no later than thirty (30) days prior to Contract expiration. **[OPTIONAL]**
33. PROPOSAL INCORPORATION – CONTRACTOR's Technical Proposal dated *** submitted in response to Request for Proposal (RFP) #***, is expressly incorporated herein by this reference and made a part hereof of this Contract. In the event of any conflict between the terms and conditions of this Contract and CONTRACTOR's Technical Proposal, this Contract shall govern and control. **[OPTIONAL]**
34. KEY PERSONNEL - *insert person's name* is deemed critical to the successful performance of this Contract. Any changes in key personnel by CONTRACTOR must be approved by SCAQMD. All substitute personnel must possess qualifications/experience equal to the original named key personnel and must be approved by SCAQMD. SCAQMD reserves the right to interview proposed substitute key personnel. **[OPTIONAL]**
35. PREVAILING WAGES – **[USE FOR INFRASTRUCTURE AND MAINTENANCE PROJECTS]** CONTRACTOR is alerted to the prevailing wage requirements of California Labor Code section 1770 et seq., and the compliance monitoring and enforcement of such requirements by the Department of Industrial Relations ("DIR"). CONTRACTOR and all of CONTRACTOR's subcontractors must comply with the California Public Works Contractor Registration Program and must be registered with the DIR to participate in public works projects. CONTRACTOR shall be responsible for determining the applicability of the provisions of California Labor Code and complying with the same, including, without limitation, obtaining from the Director of the Department of Industrial Relations the general prevailing rate of per diem wages and the general prevailing rate for holiday and overtime work, making the same available to any interested party upon request, paying any applicable prevailing rates, posting copies thereof at the job site and flowing all applicable prevailing wage rate requirements to its subcontractors. Proof of compliance with these requirements must be provided to SCAQMD upon request. CONTRACTOR shall indemnify, defend and hold

harmless the South Coast Air Quality Management District against any and all claims, demands, damages, defense costs or liabilities based on failure to adhere to the above referenced statutes.

- 36. SUBCONTRACTOR APPROVAL – If CONTRACTOR intends to subcontract all or a portion of the work under this Contract, then CONTRACTOR must first obtain written approval from SCAQMD’s Executive Officer or designee prior to subcontracting any work. Any material changes to the subcontract(s) that affect the scope of work, deliverable schedule, and/or payment/cost schedule shall also require the prior written approval of the Executive Officer or designee. No subcontract charges will be reimbursed unless the required approvals have been obtained from SCAQMD.
- 37. ENTIRE CONTRACT - This Contract represents the entire agreement between the parties hereto related to CONTRACTOR providing services to SCAQMD and there are no understandings, representations, or warranties of any kind except as expressly set forth herein. No waiver, alteration, or modification of any of the provisions herein shall be binding on any party unless in writing and signed by the party against whom enforcement of such waiver, alteration, or modification is sought.

IN WITNESS WHEREOF, the parties to this Contract have caused this Contract to be duly executed on their behalf by their authorized representatives.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

By: _____
Barry R. Wallerstein, D.Env., Executive Officer
Dr. William A. Burke, Chairman, Governing Board

By: _____
Name:
Title:

Date: _____

Date: _____

ATTEST:
Saundra McDaniel, Clerk of the Board

By: _____

APPROVED AS TO FORM:
Kurt R. Wiese, General Counsel

By: _____

//Standard Boilerplate
Revised: December 16, 2014

ATTACHMENT A

CERTIFICATIONS AND REPRESENTATIONS



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Business Information Request

Dear SCAQMD Contractor/Supplier:

The South Coast Air Quality Management District (SCAQMD) is committed to ensuring that our contractor/supplier records are current and accurate. If your firm is selected for award of a purchase order or contract, it is imperative that the information requested herein be supplied in a timely manner to facilitate payment of invoices. In order to process your payments, we need the enclosed information regarding your account. **Please review and complete the information identified on the following pages, complete the enclosed W-9 form, remember to sign both documents for our files, and return them as soon as possible to the address below:**

**Attention: Accounts Payable, Accounting Department
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178**

If you do not return this information, we will not be able to establish you as a vendor. This will delay any payments and would still necessitate your submittal of the enclosed information to our Accounting department before payment could be initiated. Completion of this document and enclosed forms would ensure that your payments are processed timely and accurately.

If you have any questions or need assistance in completing this information, please contact Accounting at (909) 396-3777. We appreciate your cooperation in completing this necessary information.

Sincerely,

Michael B. O'Kelly
Chief Financial Officer

DH:tm

Enclosures: Business Information Request
Disadvantaged Business Certification
W-9
Form 590 Withholding Exemption Certificate
Federal Contract Debarment Certification
Campaign Contributions Disclosure
Direct Deposit Authorization

REV 1/15



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

BUSINESS INFORMATION REQUEST

Business Name	
Division of	
Subsidiary of	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

REMITTING ADDRESS INFORMATION

Address			
City/Town			
State/Province		Zip	
Phone	() - Ext	Fax	() -
Contact		Title	
E-mail Address			
Payment Name if Different			

All invoices must reference the corresponding Purchase Order Number(s)/Contract Number(s) if applicable and mailed to:

Attention: Accounts Payable, Accounting Department
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

DISADVANTAGED BUSINESS CERTIFICATION

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority

business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

Statements of certification:

As a prime contractor to the SCAQMD, _____ (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:

Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise |
| <input type="checkbox"/> Local business | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise | |

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____

State of California Public Works Contractor Registration No. _____ . MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

NAME

TITLE

TELEPHONE NUMBER

DATE

Definitions

Disabled Veteran-Owned Business Enterprise means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

Joint Venture means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

Local Business means a business that meets all of the following criteria:

- has an ongoing business within the boundary of the SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

Minority-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

"Minority" person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

Small Business Enterprise means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - **A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or**
 - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

Small Business Joint Venture means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

Women-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

Request for Taxpayer Identification Number and Certification

**Give Form to the
requester. Do not
send to the IRS.**

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
	7 List account number(s) here (optional)	

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Social security number									

or

Employer identification number									

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee* code earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, *Identity Theft Prevention and Victim Assistance*.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name _____

Payee

Name _____

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.) _____

City (If you have a foreign address, see instructions.) _____

State _____ ZIP Code _____

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

Individuals — Certification of Residency:

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

Corporations:

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

Partnerships or Limited Liability Companies (LLCs):

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

Tax-Exempt Entities:

The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

California Trusts:

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

Estates — Certification of Residency of Deceased Person:

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

Nonmilitary Spouse of a Military Servicemember:

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov

Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States

TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov

Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos

TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla

Certification Regarding Debarment, Suspension, and Other Responsibility Matters

The prospective participant certifies to the best of its knowledge and belief that it and the principals:

- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
- (b) Have not within a three year period preceding this proposal been convicted of or had a civil judgment rendered against them or commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction: violation of Federal or State antitrust statute or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property;
- (c) Are not presently indicted for or otherwise criminally or civilly charged by a government entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (b) of this certification; and
- (d) Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

I understand that a false statement on this certification may be grounds for rejection of this proposal or termination of the award. In addition, under 18 USC Sec. 1001, a false statement may result in a fine of up to \$10,000 or imprisonment for up to 5 years, or both.

Typed Name & Title of Authorized Representative

Signature of Authorized Representative Date

I am unable to certify to the above statements. My explanation is attached.

EPA Form 5700-49 (11-88)



CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to South Coast Air Quality Management District (SCAQMD) Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before the SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, SCAQMD Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website (www.aqmd.gov). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

SECTION I.

Contractor (Legal Name): _____

DBA, Name _____, County Filed in _____ Corporation, ID No. _____ LLC/LLP, ID No. _____
--

List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
(See definition below).

SECTION II.

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

Yes No **If YES, complete Section II below and then sign and date the form. If NO, sign and date below. Include this form with your submittal.**

Campaign Contributions Disclosure, continued:

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
 - (A) One business entity has a controlling ownership interest in the other business entity.
 - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:
 - (i) The same person or substantially the same person owns and manages the two entities;
 - (ii) There are common or commingled funds or assets;
 - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;
 - (iv) There is otherwise a regular and close working relationship between the entities; or
 - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.



South Coast Air Quality Management District

21865 Copley Drive, Diamond Bar, CA 91765-4178
(909) 396-2000 • www.aqmd.gov

Direct Deposit Authorization

STEP 1: Please check all the appropriate boxes

- | | |
|--|--|
| <input type="checkbox"/> Individual (Employee, Governing Board Member) | <input type="checkbox"/> New Request |
| <input type="checkbox"/> Vendor/Contractor | <input type="checkbox"/> Cancel Direct Deposit |
| <input type="checkbox"/> Changed Information | |

STEP 2: Payee Information

Last Name		First Name		Middle Initial	Title
Vendor/Contractor Business Name (if applicable)					
Address				Apartment or P.O. Box Number	
City		State	Zip	Country	
Taxpayer ID Number		Telephone Number		Email Address	

Authorization

- I authorize South Coast Air Quality Management District (SCAQMD) to direct deposit funds to my account in the financial institution as indicated below. I understand that the authorization may be rejected or discontinued by SCAQMD at any time. If any of the above information changes, I will promptly complete a new authorization agreement. If the direct deposit is not stopped before closing an account, funds payable to me will be returned to SCAQMD for distribution. This will delay my payment.
- This authorization remains in effect until SCAQMD receives written notification of changes or cancellation from you.
- I hereby release and hold harmless SCAQMD for any claims or liability to pay for any losses or costs related to insufficient fund transactions that result from failure within the Automated Clearing House network to correctly and timely deposit monies into my account.

STEP 3:

You must verify that your bank is a member of an Automated Clearing House (ACH). Failure to do so could delay the processing of your payment. You must attach a voided check or have your bank complete the bank information and the account holder must sign below.

To be Completed by your Bank

Staple Voided Check Here	Name of Bank/Institution				
	Account Holder Name(s)				
	<input type="checkbox"/> Saving <input type="checkbox"/> Checking		Account Number	Routing Number	
	Bank Representative Printed Name		Bank Representative Signature		Date
	ACCOUNT HOLDER SIGNATURE:				Date

For SCAQMD Use Only

Input By _____

Date _____

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 10

PROPOSAL: Appointment of Members to SCAQMD Hearing Board

SYNOPSIS: The terms of office for the Hearing Board Attorney Member and Engineer Member and their Alternates expire June 30, 2015. An Advisory Committee was appointed as required by law. The Advisory Committee interviewed attorney member and engineer member candidates at its meeting on March 27, 2015, and made its recommendations to the Administrative Committee. The Administrative Committee interviewed candidates at its meeting on April 3, 2015, and made a final recommendation. This action is to appoint members to fill the new terms.

COMMITTEE: Administrative, April 3, 2015; Recommended for Approval.

RECOMMENDED ACTION:

Reappoint the following individuals to the SCAQMD Hearing Board, effective July 1, 2015, with terms ending June 30, 2018:

Julie Prussack, Attorney Member	Alternate: Douglas W. Lofgren
Edward Camarena, Engineer Member	Alternate: Thomas J. McCabe, Jr.

Barry R. Wallerstein, D.Env.
Executive Officer

SM

Background

Health and Safety Code Section 40501.1(b) requires the SCAQMD to appoint a Hearing Board Advisory Committee consisting of one representative appointed by each of the counties of Los Angeles, Orange, Riverside, and San Bernardino, and the City of Los Angeles. The following individuals, with a variety of professional experience, served on the Advisory Committee for this recruitment. They are:

City of Los Angeles	Raymond Regalado, Human Relations Commission, County of Los Angeles Community Senior Srvcs. Dept.
County of Los Angeles	Robert A. Wyman, Jr., Attorney at Law Latham & Watkins LLP
County of Orange	Ben Seybold, Senior Vice President, CBRE
County of Riverside	Buford Crites, Board Consultant to Governing Board Member, John J. Benoit
County of San Bernardino	Dr. William Sterling, President BCM Group, Inc.

The current Attorney Member, Julie Prussack, and the current Engineer Member, Edward Camarena, as well as their current Alternates, Douglas W. Lofgren and Thomas J. McCabe, Jr., respectively, all requested reappointment.

Based on the attached criteria developed by the Advisory Committee, the Committee members and selected SCAQMD staff – the Senior Policy Advisor and the Assistant Deputy Executive Officer of Administrative and Human Resources – evaluated the resumes of 32 attorney member candidates and 7 engineer member candidates, and ranked the individuals according to their scores. Based on the ranking, the Committee then narrowed the candidates to short lists of 5 attorney candidates and 4 engineer candidates who were interviewed by the Advisory Committee. After interviewing all 9 candidates, the Advisory Committee deliberated and unanimously agreed upon a recommendation to refer the top three attorney candidates (without ranking) and top three engineer candidates (ranked as enumerated below) to the Administrative Committee for interviews as follows:

Attorney Member Candidates

- Michael Hickok
- **Douglas W. Lofgren
- *Julie Prussack

**incumbent member*
***incumbent alternate*

Engineer Member Candidates

- 1) *Edward Camarena
- 2)**Thomas J. McCabe, Jr.
- 3) Dixie Richards

Proposal

After interviewing each of the six candidates, the Administrative Committee recommended that the Board reappoint Julie Prussack as Attorney Member, reappoint Douglas W. Lofgren as Alternate Attorney Member, reappoint Edward Camarena as Engineer Member, and reappoint Thomas J. McCabe, Jr. as Alternate Engineer Member, for terms commencing July 1, 2015 and ending June 30, 2018. The individuals recommended for appointment were subsequently contacted, and each

indicated their willingness to serve. A summary of the qualifications of each is set forth below.

Attorney Member

Julie Prussack – Ms. Prussack joined the Hearing Board as the Attorney Member in July 2009 and had ten years of experience as a litigating attorney, most recently serving as a Senior Attorney and the Director of the Southern California Clean Air Program of the Natural Resources Defense Council (NRDC). While at the NRDC, she served as lead counsel on lawsuits brought against air polluters and government agencies, as well as a lawsuit defending important SCAQMD rules. She also served on a variety of working groups and committees at the SCAQMD during this time and became familiar with the District's rulemaking process. Ms. Prussack left her position with the NRDC in 2006 to become a full-time mother. From 2007 to 2009, she served as a part-time Board Consultant to Governing Board Member Dr. Joseph Lyou. Ms. Prussack holds a B.S. in Accounting from the State University of New York at Albany and received her Juris Doctorate from the New York University School of Law, New York.

Alternate Attorney Member

Douglas W. Lofgren – Appointed to the Hearing Board in June 2012, Mr. Lofgren has been a practicing attorney for 43 years, as a military lawyer (both prosecutor and defense attorney) in the U.S. Army JAG Corps for three years, a federal prosecutor for seven years, and an in-house corporate litigator for seven years; and has had his own practice specializing in complicated civil litigation and white collar criminal defense for the past 25 years. His cases have included matters involving contaminated soil, state water regulatory issues, and other technical issues. Mr. Lofgren holds an A.B. cum laude in Government from Harvard University and received his Juris Doctorate from the University of Southern California Law School.

Engineer Member

Edward Camarena – Mr. Camarena has over five decades of air pollution experience. Prior to beginning his service on the Hearing Board in July 1994, he was Deputy Executive Officer of Operations for the SCAQMD where his responsibilities at various times included the engineering, permitting, enforcement, technical services, information systems, technology development and human resource programs. In addition to his service on the Hearing Board, Mr. Camarena also serves on the SCAQMD's Budget Advisory Committee and has previously served on the SCAQMD's BACT/Scientific Review Committee. After 33 years with the SCAQMD, Mr. Camarena served as an air quality policy and technical consultant to the staff of the World Bank in Latin America, the Mexico City Commission for the Prevention and Control of Air Pollution and the Mexico City Transportation and Roads Commission. Current affiliations include the National Association of Administrative Law Judges and the National Association of

Hearing Officials. Past affiliations included the California Air Pollution Control Officers Association, National Society of Professional Engineers, California Society of Professional Engineers, American Chemical Society, American Institute of Chemists, and Orange County Engineering Council. Mr. Camarena holds a B.A. in Chemistry from Occidental College, Los Angeles and a Master of Science in Environmental Engineering from the University of California, Irvine.

Alternate Engineer Member

Thomas J. McCabe, Jr. – Appointed to the Hearing Board in September 2012, Mr. McCabe has more than 35 years of environmental experience, including prosecution of environmental crimes for the Illinois Attorney General’s Office, performing audit inspections of California state and local air quality agencies for U.S. EPA, and writing New Source Performance Standards (NSPS) and National Emissions Standards for Hazardous Air Pollutants (NESHAPS) for U.S. EPA’s Office of Air Quality Planning and Standards. Additionally, Mr. McCabe managed corporate and line environmental, health and safety functions for Northrop Grumman Corporation, Edison Mission Energy and the United States Navy, where he began his career in 1971. Mr. McCabe holds a B.S. in Marine Engineering from the United States Merchant Marine Academy, an MBA from the University of California, Los Angeles, and a Juris Doctorate from the John Marshall School of Law, Chicago, IL.

Below are summaries of qualifications for the candidates who the Administrative Committee has not recommended for selection, attorney member candidate Michael Hickok and engineer member candidate Dixie Richards:

Michael Hickok – a sole practitioner with more than 35 years of experience as an environmental specialist, including representing companies appearing before the Hearing Board early in his career, primarily the Mobil Torrance refinery. Mr. Hickok has worked as an attorney in several leading law firms in the Los Angeles area, representing clients in environmental litigation, compliance counseling, and transactional matters. Mr. Hickok has a B.A. cum laude from Tulane University and a Juris Doctorate from Georgetown University Law Center.

Dixie Richards – recently retired Senior Air Quality Engineer at the SCAQMD, with over 31 years of engineering experience in air pollution control, including involvement with numerous Hearing Board cases and testifying before the Hearing Board. While at SCAQMD, Ms Richards supervised a team of permit processing engineers responsible for the RECLAIM and Title V facilities in the Mechanical Team. Ms Richards has a B.S. in Microbiology and Chemical Engineering from California State University, Long Beach.

Fiscal Impacts

Sufficient funds are budgeted each year to compensate those who serve on the Hearing Board.



[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 11

PROPOSAL: Issue Solicitations Approved by MSRC

SYNOPSIS: As part of their FYs 2014-16 AB 2766 Discretionary Fund Work Program, the MSRC approved the release of Program Announcements for the Alternative Fuel Infrastructure, Local Government Match, and Major Event Center Transportation Programs, as well as a Request for Proposals for MSRC Programmatic Outreach Services for January 2016 through December 2017. At this time the MSRC seeks Board approval to release the solicitations.

COMMITTEE: Mobile Source Air Pollution Reduction Review, March 19 and April 16, 2015; Recommended for Approval

RECOMMENDED ACTIONS:

1. Issue Program Announcement for the Alternative Fuel Infrastructure Program, with a targeted funding level of \$5,000,000, as part of approval of the FYs 2014-16 Work Program, as described in this letter and in the attached;
2. Issue Program Announcement for the Local Government Match Program, with a targeted funding level of \$13,000,000, as part of approval of the FYs 2014-16 Work Program, as described in this letter and in the attached;
3. Issue Program Announcement for the Major Event Center Transportation Program, with a targeted funding level of \$4,500,000, as part of approval of the FYs 2014-16 Work Program, as described in this letter and in the attached; and
4. Issue Request for Proposals for MSRC Programmatic Outreach Services, with a targeted funding amount not to exceed \$120,000 for the initial two-year period, as part of approval of the FYs 2014-16 Work Program, as described in this letter and in the attached.

Greg Pettis,
Chair, MSRC

Background

In September 1990 Assembly Bill 2766 was signed into law (Health & Safety Code Sections 44220-44247) authorizing the imposition of an annual \$4 motor vehicle registration fee to fund the implementation of programs exclusively to reduce air pollution from motor vehicles. AB 2766 provides that 30 percent of the annual \$4 vehicle registration fee subvended to the SCAQMD be placed into an account to be allocated pursuant to a work program developed and adopted by the MSRC and approved by the Board.

In November 2014, the MSRC selected initial categories for the FYs 2014-16 Work Program, with the understanding that additional project categories would continue to be developed and brought forward for consideration at a later date. At its March 19, 2015 meeting, the MSRC met as a committee of the whole because a quorum was not present, and considered recommended targeted funding amounts and solicitation documents to implement the initially identified categories. At its April 16, 2015 meeting, the MSRC ratified recommendations from the March meeting as well as considering an RFP to solicit programmatic outreach services for January 2016 through December 2017. Details are provided below in the Proposals section.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, public notices advertising the Alternative Fuel Infrastructure, Local Government Match, Major Event Center Transportation, and Programmatic Outreach Services solicitations will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and the Riverside County Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin. In addition, the solicitations will be advertised in the Desert Sun newspaper for expanded outreach in the Coachella Valley.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the solicitations will be e-mailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids." Further, the solicitations will be posted on the MSRC's website at <http://www.CleanTransportationFunding.org> and electronic notifications will be sent to those subscribing to this website's notification service.

Proposals

At its March 19, 2015 and April 16, 2015 meetings, the MSRC considered recommendations from its MSRC-TAC and unanimously approved the following:

Local Government Match Program

The MSRC approved release of Program Announcement #PA2015-11 under the FYs 2014-16 Work Program. The Program Announcement, with a targeted funding level of \$13.0 million, provides funding for alternative fuel infrastructure, including both new and expanded stations as well as upgrade of existing vehicle maintenance facilities, up to a maximum amount per project of \$500,000. The purchase of heavy-duty alternative fuel vehicles can receive up to \$30,000 per vehicle, while the purchase of qualifying medium-duty alternative fuel vehicles is eligible for a maximum MSRC contribution of \$10,000 per vehicle. Electric vehicle charging infrastructure can receive funding up to a maximum of \$500,000 per entity. Active transportation projects including, but not limited to, pedestrian and bicycle projects can also receive funding up to a maximum per entity of \$500,000, while active transportation outreach and education projects can receive up to \$50,000 per entity. Qualifying AB 2766 Subvention Fund recipients in the Coachella Valley can receive funding to support regional street sweeping programs, up to a maximum of \$250,000 per entity. The final category, new this year, provides funding for commercial electric riding lawnmowers, up to a maximum of \$5,000 per lawnmower depending upon size. In all categories funding will be provided on a dollar-for-dollar match basis, and funding for all eligible entities will be distributed on a first-come, first-served basis with a geographic minimum per county of \$1,625,000. The Program Announcement includes an open application period commencing June 2, 2015 and closing September 4, 2015.

Alternative Fuel Infrastructure Program

The MSRC approved release of Program Announcement #PA2015-12 under the FYs 2014-16 Work Program. The Program Announcement, with a targeted funding level of \$5.0 million, provides funds for new and expanded alternative fuel stations, as well as for the upgrade of existing vehicle maintenance facilities. Stations will be eligible for up to 50 percent of station capital equipment, site construction, signage, and reasonable project management costs, not to exceed the specified maximum award amounts. The maximum MSRC funding per project varies from \$100,000 to \$275,000 depending upon whether the applicant is a public or private entity, accessibility level of the proposed project, and the number of fuels offered. Proposals meeting requirements will be funded on a first-come, first-served basis. The RFP includes an open application period commencing with its release on May 15, 2015, and closing July 29, 2016, and projects will be brought to the MSRC for consideration of awards throughout the application period.

Event Center Transportation Program

The MSRC approved release of Program Announcement #PA2015-13 under the FYs 2014-16 Work Program. The Program Announcement solicits applications from qualifying major event centers and/or transportation providers to provide transportation service for venues not currently served by sufficient transportation service. To qualify, an event center must have an occupancy capacity of at least 5,000, and an average event attendance of at least 2,000. The applicant must demonstrate that the center is impacted by traffic to the extent that the design capacity of the surrounding streets is exceeded.

Applications may be submitted at any time from May 1, 2015 to July 29, 2016, and projects will be brought to the MSRC for consideration of awards throughout the application this period. The maximum total funding award to any entity shall not exceed \$2,250,000, and the maximum amount which can be applied to transportation programs at any one event center is \$1,350,000. The MSRC can waive these maximum funding restrictions in the event the MSRC does not receive sufficient meritorious proposals from other bidders to utilize the remaining funds, or if the MSRC allocates additional funds to the Program.

MSRC Programmatic Outreach Services

For the last several years the MSRC has retained a consultant to provide programmatic outreach services. The current consultant contract expires December 30, 2015. The MSRC approved release of a new RFP to solicit proposals for programmatic outreach services from January 2016 through December 2017. The RFP will provide an option clause to allow the MSRC to exercise a contract extension for one additional two-year term for the chosen consultant, as prior RFPs and consultants have done. Any additional funding to accompany the option for additional time will be brought forward to the MSRC and SCAQMD Board for consideration. The target funding for this RFP is \$120,000 under the FYs 2014-16 Work Program. The RFP proposal period commences May 1, 2015 and closes June 17, 2015. It is anticipated that the MSRC will consider an award at its August 20, 2015 meeting, and the SCAQMD Board at its September 4, 2015 meeting.

At this time the MSRC requests SCAQMD Board approval to release the solicitations described in this letter under the FYs 2014-16 Work Program.

Resource Impacts

The SCAQMD acts as fiscal administrator for the AB 2766 Discretionary Fund Program (Health & Safety Code Section 44243). Money received for this program is recorded in a special revenue fund (Fund 23) and any contracts awarded in response to the solicitations will be drawn from this fund.

Attachments

Program Announcement #PA2015-11 – Local Government Match Program
Program Announcement #PA2015-12 – Alternative Fuel Infrastructure Program
Program Announcement #PA2015-13 – Major Event Center Transportation Program
RFP #P2015-31 – Programmatic Outreach Services



Announcing the MSRC's Clean Transportation Funding

Local Government Match Program 2015 Edition

**A Funding Opportunity for Cities & Counties in the
South Coast Air Quality Management District**

Program Guidelines & Application

PA2015-11

May 1, 2015



DATE: May 1, 2015
TO: Local Government Official
FROM: Greg Pettis, Chair, MSRC
SUBJECT: MSRC Local Government Match Program Announcement

The Mobile Source Air Pollution Reduction Review Committee (MSRC) is pleased to announce a new round of **Clean Transportation Funding™** available exclusively to cities and counties within the South Coast Air Quality Management District (SCAQMD). The Local Government Match Program offers to co-fund clean air projects implemented by cities and counties that utilize their Motor Vehicle Registration Fee Subvention Funds, commonly referred to as "AB 2766 Subvention Funds". The MSRC, using its Discretionary Funds, will contribute match funding towards qualifying projects. All cities and counties within the jurisdiction of the SCAQMD who receive AB 2766 Subvention Funds are eligible to participate in this Program. Also, regional Councils of Governments (COGs) who receive an appropriation of AB 2766 Subvention Funds from their member jurisdictions are eligible to participate, provided that qualifying AB 2766 Subvention Funds are used by the COG as the matching funds.

Eligible project categories for this year's Local Government Match Program have been refined to better support cities' and counties' air quality improvement needs. The following project categories are eligible to receive MSRC matching funds under the 2015 Program:

- New Alternative-Fuel Refueling Stations
- Upgrade & Expansion of Existing Alternative Fuel Refueling Stations
- Upgrade of Existing Fleet Maintenance Facilities to Accommodate Gaseous-fuel Vehicles
- Active Transportation Projects, including bicycle Infrastructure & Related Programs
- Electric Vehicle Charging Stations
- Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles
- Purchase of Commercial Zero Emission Electric Riding Lawnmowers
- Street Sweeping Operations in the Coachella Valley

Local governments can also earn an MSRC match contribution on funds in addition to AB 2766 Subvention Funds. This would apply to cities or counties which have fully obligated or appropriated their Subvention Fund balances, but still have unmet requirements for qualifying projects. The

requirements and conditions of this Program feature are discussed in detail in subsequent Sections of this Program Announcement.

The 2015 Edition of the Local Government Match Program features streamlined application forms to reduce the need to fill out paperwork. Also, applications must be submitted via an online submittal process as opposed to paper copies – eliminating *all* paperwork. In an effort to reduce paper waste, **ONLY** electronically submitted applications will be accepted!

MSRC staff is available to assist applicants during the development of their Local Government Match Program applications. Please refer to Section I.C. of the Program Announcement for a listing of MSRC Staff points of contact. Should you have any immediate questions, please contact Ray Gorski, MSRC Technical Advisor, at (909) 396-2479, or Ms. Cynthia Ravenstein, MSRC Program Administrator, at (909) 396-3269. The Announcement and Application documents can be accessed via the Internet by visiting MSRC's **Clean Transportation Funding™** website at www.CleanTransportationFunding.org.

On behalf of the MSRC Clean Transportation Funding Program, we look forward to working with you to develop air quality improvement projects for your community.

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SECTION I: PROGRAM INTRODUCTION

The Mobile Source Air Pollution Reduction Review Committee (MSRC) is pleased to announce the 2015 Edition of the Local Government Match Program, a Clean Transportation Funding™ opportunity available exclusively to cities and counties within the South Coast Air Quality Management District (SCAQMD). The Local Government Match Program (Match Program) offers to co-fund clean air projects implemented by cities and counties utilizing their AB 2766 Subvention Funds. The MSRC, using its Discretionary Funds, will contribute a “funding match” towards a qualifying project. The MSRC has allocated \$13.0 million in Clean Transportation Funding™ for the 2015 Edition of the Match Program.

The primary goal of the Match Program is to assist local governments in *leveraging* their AB 2766 Subvention Funds to implement timely, effective air pollution reduction projects. The Match Program directly supports cities and counties in meeting and exceeding their clean air obligations under the SCAQMD Fleet Rules. Additionally, the partnerships formed by the MSRC and local jurisdictions to construct new, publicly accessible alternative-fuel refueling infrastructure support expansion of the refueling network that benefits the entire South Coast region.

All cities and counties within the jurisdiction of the SCAQMD who receive AB 2766 Subvention Funds are eligible to participate in this Match Program. Also, regional Councils of Governments (COGs) who receive an appropriation of AB 2766 Subvention Funds from their member jurisdictions are eligible to participate, provided that qualifying AB 2766 Subvention Funds are used by the COG as the matching funds.

The Match Program is not a competition in the traditional sense. Funding will be distributed on a first-come, first-served basis to applicants that satisfy project requirements as specified in the following guidelines. While the MSRC makes every effort to ensure that all cities and counties have an opportunity to participate, funding is limited; thus, the availability of match funds cannot be guaranteed.

The 2015 Edition of the MSRC Local Government Match Program retains many features of past Match Program offerings. As in past years, MSRC Clean Transportation Funding™ will provide a “dollar for dollar” match against AB 2766 Subvention Funds and/or other qualifying match funding sources. The eligible project categories in the 2015 Edition have been selected to reflect feedback from local jurisdictions as to their funding priorities – for this reason, the MSRC has identified the following project categories for which an MSRC Match can be requested. These categories include:

- New Alternative-Fuel Refueling Stations
- Upgrade & Expansion of Existing Alternative Fuel Refueling Stations
- Upgrade of Existing Fleet Maintenance Facilities to Accommodate Gaseous-fuel Vehicles
- Active Transportation Projects, including bicycle Infrastructure & Related Programs
- Electric Vehicle Charging Stations
- Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles
- Purchase of Commercial Zero Emission Electric Riding Lawnmowers

- Street Sweeping Operations in the Coachella Valley

Please note that only entities located within the Coachella Valley are eligible to participate in Street Sweeping category, as only the Coachella Valley has street sweeping as an element of an approved State Implementation Plan (SIP).

A thorough discussion of the Match Program categories, participation requirements, and project guidelines is included in Section I.C., “Participation Guidelines, Requirements, & Conditions”, included herein.

The MSRC has designed the Match Program to be as flexible and easy to participate in as possible within the constraints of a government agency public process. Also, to reduce the need to photocopy, package, and physically submit paper applications, the 2015 Edition of the Match Program requires that applications be submitted electronically in PDF format using the MSRC Website. We believe this benefits the applicant, the MSRC staff, and the environment. A tutorial has been developed to walk applicants step by step through the electronic application submittal process. This tutorial is available on the MSRC Website at www.CleanTransportationFunding.org. Look for the link on the right hand side of the Home Page – “Proposal Upload Tutorial” - and click that link to view the step-by-step instructions.

The following Sections of the Match Program Guidelines provide a more detailed discussion of the project categories, participation requirements, and application preparation templates. While the MSRC staff do their best to make the process self-explanatory, questions are inevitable; see Section I.D for a list of MSRC staff contacts if you need assistance regarding any aspect of the 2015 Match Program.

I.A. PROGRAM SCHEDULE

The MSRC Local Government Match Program will be conducted in accordance with the timeline illustrated in Table I.A-1, below. As shown, project applications will be accepted electronically beginning on June 2, 2015. Applications will be accepted until **11:59 pm on September 4, 2015**. Please note that only applications submitted electronically via the MSRC website will be accepted. Paper copies of the application are not acceptable and should not be submitted.

While applications may be submitted at any time during this period, MSRC Match Funds will be awarded on a first-come, first-served basis for eligible projects that conform to Match Program requirements. It is important to note that while applications can be submitted up until 11:59 pm on September 4, 2015, MSRC Match Funds may be exhausted prior to the September 4, 2015 submittal end date. Thus, the availability of MSRC Match Funds cannot be guaranteed.

Table I.A-1 Key Program Dates

Match Program Event	Date
Program Announcement Release Date	May 1, 2015
Earliest Date for Application Electronic Submission	June 2, 2015
Last Date and time Electronic Applications will be Accepted	11:59 pm on September 4, 2015

I.B. PARTICIPATION GUIDELINES, REQUIREMENTS, & CONDITIONS

The MSRC's Match Program has been designed to make the application preparation and submittal process uncomplicated for the cities and counties within the SCAQMD. However, to ensure that the Match Program conforms to all applicable SCAQMD regulations and MSRC policies, the following requirements and conditions have been established and apply to all applicants:

1. **Earliest Date for an MSRC-Funded Project to Commence** – The release date of this Program Announcement, May 1, 2015, is the earliest date work on a project can commence and be potentially eligible for MSRC Match Program Funding. Any expenditure made in anticipation of an award of MSRC Match Program Funding and prior to execution of a contract is solely at the proposer's risk. If no Local Match Program contract is executed, neither the MSRC nor SCAQMD is liable for payment of any funds expended in anticipation of a contract. Please note that in the event a contract is executed, reimbursement for any costs incurred by the proposer in anticipation of the contract is at the discretion of the MSRC and SCAQMD.
2. **Funding Availability** - The amount of MSRC Clean Transportation Funding™ allocated for the Match Program is \$13.0M. Funding is available on a first-come, first-served basis to applicants proposing qualifying projects. For the purpose of this Match Program, all qualified project applications received electronically on the first day of the Application Acceptance Period, June 2, 2015, will be deemed received at the same time. In the event the Match Program is oversubscribed following receipt of first-day applications, MSRC funds will be distributed on a pro rata share basis to qualified project applications. Please note that the Geographic Funding Minimums discussed in paragraph 4, below, will take precedence in the event funding must be pro-rated. Qualifying applications received after June 2, 2015 will be funded in the order of receipt.

Please note that the source of MSRC Clean Transportation Funding™ for projects submitted in response to this solicitation is motor vehicle registration fees collected by the California Department of Motor Vehicles (DMV) in accordance with the California Health and Safety Code. Thus, the availability of MSRC Clean Transportation Funding™ is contingent upon the timely receipt of funds from the DMV. Neither the MSRC nor SCAQMD can guarantee the collection or remittance of registration fees by the DMV.

3. **MSRC Match Funding Levels** – The MSRC will match AB 2766 Subvention Funds, and in certain cases other funding sources, in accordance with the following guidelines:
 - New Construction Alternative Fuel Infrastructure: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources on a “dollar for dollar” basis¹. The maximum MSRC match amount per project for alternative fuel infrastructure construction shall not exceed \$500,000;
 - Upgrade & Expansion of Existing Alternative Fuel Refueling Stations & Maintenance Facilities: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources on a “dollar for dollar” basis. The maximum MSRC match amount per project for alternative fuel infrastructure upgrade and expansion shall not exceed \$500,000;

¹ i.e., the MSRC will not pay more than 50% of project costs.

- Electric Vehicle Charging Infrastructure: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources dollar for dollar up to a maximum of \$500,000 per entity for the implementation of electric vehicle charging infrastructure;
 - Medium-Duty Alternative Fuel Vehicle Purchases: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources dollar for dollar in an amount not to exceed \$10,000 per qualifying medium-duty vehicle;
 - Heavy-Duty Alternative Fuel Vehicle Purchases: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources dollar for dollar in an amount not to exceed \$30,000 per qualifying heavy-duty vehicle;
 - Active Transportation Programs: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources dollar for dollar for the implementation of bicycle infrastructure projects, related bicycle programs, and projects which encourage other active modes of transportation. The maximum MSRC match amount per entity for Active Transportation projects shall not exceed \$500,000. Active Transportation Outreach & Education Projects are limited to a maximum per entity match of \$50,000. Please note that the SCAQMD's AB 2766 Subvention Fund Program Resource Guide² provides that funds used for public education programs should not exceed a total of ten percent (10%) of the jurisdiction's Subvention Funds received during the fiscal year reporting cycle. Logistical costs associated with events promoting active transportation, such as Open Streets events, are not considered public education programs under the Resource Guide. For further information, please contact Kathryn Higgins, SCAQMD Program Supervisor, Planning, Rule Development & Area Sources, at (909) 396-3309;
 - Commercial Zero Emission Electric Riding Lawnmowers: The MSRC will match AB 2766 Subvention Funds and in certain cases additional funding sources dollar for dollar in an amount not to exceed \$2,500 or \$5,000 per qualifying zero-emission electric riding lawnmower depending on the size of the zero emission lawnmower purchased;
 - Street Sweeping in the Coachella Valley: The MSRC will match AB 2766 Subvention Funds dollar for dollar, not to exceed an MSRC contribution of \$250,000 per entity to implement street sweeping operations in the Coachella Valley region of the SCAQMD.
4. **Geographical Funding Minimum** - The MSRC has established a Geographical Funding Minimum for each county within the SCAQMD. The geographical funding minimum amount has been set at \$1,625,000 per county. This funding set-aside guarantees a minimum level of funding for each county to implement emission reduction projects. At the end of the application submittal period, September 4, 2015, if any county has funds remaining in its geographical minimum, these funds will be made available to qualifying projects from any other county in order of receipt.
5. **Eligibility Requirements** – Only cities and counties within the SCAQMD that receive AB 2766 Subvention Funds are eligible to submit an application under the Match Program. Regional Councils of Governments

² The Resource Guide may be viewed at <http://www.aqmd.gov/docs/default-source/transportation/ab2766-motor-vehicle-subvention-fund-program/ab2766-resource-guide.pdf?sfvrsn=2>.

(COGs) who receive an appropriation of AB 2766 Subvention Funds from their member jurisdictions are eligible to participate, provided that qualifying AB 2766 Subvention Funds are used by the COG as the matching funds. In addition, the contracting entity for the project must be the city, county, or qualified COG who submitted the application. Participation by other agencies or private businesses is allowed, but would be handled through separate subcontracts or agreements with the funded applicant. Please be aware that the applying city, county, or COG is solely responsible for the performance of any Contract under the Match Program.

6. **Project Teaming** - Teaming by cities and/or counties, and the pooling of AB 2766 Subvention Funds, is allowable. Please note that a lead team member must be designated for the purpose of application submittal and contracting. If desired, multiple cities, counties, and/or COGs may form a Joint Powers Authority (JPA) for the purpose of application submittal and contracting. Please note that all members of the JPA must meet the eligibility requirements of the preceding paragraphs. A letter designating the lead agency and authorizing such agency to act on behalf of all parties interests must be submitted from each participating city and/or county prior to contract execution.
7. **Ability to Earn a MSRC Match on Future AB 2766 Subvention Fund Allocations** – In addition to current Subvention Fund balances, applicants may also apply anticipated AB 2766 Subvention Funds from the fiscal year commencing July 1, 2015 and ending June 30, 2016 to projects proposed under this Match Program. Thus, the MSRC will match the prospective AB 2766 Subvention Fund allocation in addition to currently available AB 2766 Subvention Funds applied to the project. Please note that any current Subvention Fund balance must be fully encumbered or allocated prior to proposing the use of future funds.
8. **Ability to Earn a MSRC Match on Funding Sources in Addition to AB 2766 Subvention Funds** - In addition to AB 2766 Subvention Funds, cities and counties only may also apply up to \$500,000 in “other funds” to projects proposed under the MSRC Match Program. This limit carries across funding categories within the Match Program – e.g. if an applicant uses \$500,000 in “other funds” for an infrastructure project, they cannot apply “other funds” to a vehicle purchase project. Any current Subvention Fund balance must be fully encumbered or allocated prior to proposing the use of other funds. Other funds can include, but are not limited to, local funds, state funds, federal funds, etc. **Please note that SCAQMD “Carl Moyer” funding cannot be used as “other funding” for the purpose of the Match Program, as there is a State prohibition against co-mingling Carl Moyer and AB 2766 Funding.**
9. **Project Completion Deadlines** – All projects should be designed such that they can be fully implemented within 36 months of contract execution.
10. **Reporting Requirements** – The reporting requirements established for the Match Program are intended to ensure adequate monitoring of the use of public funds, while avoiding the imposition of excessive reporting burdens on the funding recipients. Individual reporting requirements will be a function of the type of project proposed; however, reporting typically includes quarterly progress reports as well as a concise Final Report.

11. **Audit Requirements** – In accordance with state law, all projects funded with MSRC Discretionary Funds are subject to audit. It is highly recommended that applicants employ standard government accounting practices when administering their MSRC co-funded project.

12. **Additional Requirements & Conditions on MSRC Match Program Funding**

- Projects funded under the MSRC Match Program are not eligible to apply for additional MSRC funds under any other MSRC Work Program solicitation;
- Projects awarded MSRC funding under a previous Work Program are not eligible to receive additional MSRC Discretionary Funds under this Program;
- MSRC match funds over and above the original contract amount will NOT be available for any reason, including project cost overruns. Applicants must use additional Subvention funds or sources other than MSRC Discretionary Funds to cover foreseen or unforeseen project cost increases;
- MSRC match funds are not intended to fund existing staff salaries. Project management costs necessary to implement new alternative fuel infrastructure projects are allowable; however, the MSRC reserves the right to reduce or delete project management costs that appear excessive;
- MSRC match funds will be distributed on a reimbursement basis upon completion of the approved project and submittal of all required reports and invoices;
- Addenda – The MSRC may modify the Program Announcement and/or issue supplementary information or guidelines relating to the Program Announcement during the application preparation and submittal period of June 2, 2015 to September 4, 2015. Please note that Program Announcement amendments will be posted on the MSRC website at www.CleanTransportationFunding.org;
- Application Modifications - Once submitted, applications cannot be altered without the prior written consent of the MSRC.

13. **Application Evaluation and Approval Process** - Applications will be evaluated as received to ensure compliance with Match Program requirements. Only applications received electronically that comply with all minimum requirements will be deemed acceptable. Noncompliant applications will lose their original funding position. Resubmitted applications will be issued a new date and time received for purposes of disbursing funds on a first-come, first-served basis.

If an application is for a Public Works project as defined by State of California Labor Code Section 1720, Applicant is required to include Contractor Registration Number in Attachment A, as applicable. Application may be deemed as non-responsive and applicant may be disqualified if Contractor Registration Number is not included in Attachment A. Applicant is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28).

Applications deemed compliant by MSRC staff will be forwarded to the MSRC Technical Advisory Committee (MSRC-TAC) for review and concurrence with staff's recommendation. Following MSRC-TAC approval, a funding recommendation will be forwarded to the MSRC for approval.

Applications recommended for funding by the MSRC will be forwarded to the SCAQMD Governing Board for final approval. Please note that the MSRC reserves the right to not fund any projects under the Match

Program, to modify award amounts, or reallocate part or all of the funding under this Program to another MSRC Clean Transportation Funding™ category.

Upon receipt of Governing Board approval, the MSRC Staff will prepare a contract for execution by the applicant. The time period from SCAQMD Governing Board approval to contract execution is anticipated to be approximately ninety (90) days.

I.C. IF YOU NEED HELP

This Program Announcement can be obtained by accessing the MSRC web site at www.CleanTransportationFunding.org. MSRC staff members are available to answer questions during the application acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- **For General or Administrative Questions**, please contact:

Cynthia Ravenstein, MSRC Program Administrator

Phone: 909-396-3269

E-mail: Cynthia@CleanTransportationFunding.org

- For **General Questions or Technical Assistance**, please contact:

Ray Gorski, MSRC Technical Advisor

Phone: 909-396-2479

E-mail: Ray@CleanTransportationFunding.org

- For **Contractual Questions**, please contact:

Dean Hughbanks, SCAQMD Procurement Manager

Phone: 909-396-2808

E-mail: dhughbanks@aqmd.gov

SECTION II: APPLICATION PREPARATION INSTRUCTIONS

In an effort to reduce the paperwork burden on applicants, a template-based application format has been adopted for MSRC Match Program applications. The forms are designed to be self-explanatory and should prove straightforward to complete; however, should questions arise during application preparation, please contact the appropriate MSRC staff representative as shown in Section I.C.

The forms included in the following sections should be completed by the applicant and submitted in accordance with the instructions provided in Section II.E, “Electronic Submittal Instructions”, below. There are four primary parts to be completed, plus Certifications and a signed cover letter. Each part is briefly summarized as follows:

- Part A, “Applicant Information”, requests general information from the applicant. For joint applications (i.e., more than one city, county, and/or COG) the applicant must include a statement confirming authorization to act on behalf of the other co-applicants. The applicant must include a letter of support, including contact name and telephone/fax number, from all proposing entities of a joint application.
- Part B, “Project Description/Statement of Work,” requests that the applicant provide a Project Description/Statement of Work delineating: a) project goals and objectives; b) statement of work; and c) project end products. Please note that only the requested input data is required; applicants are not required to perform emissions reductions calculations as an element of their Match Program application;
- Part C, “Project Budget”, requests a cost breakdown of the proposed project including: a) total project cost; b) AB 2766 funds from current fund balance allocated to the proposed project; c) AB 2766 Subvention Funds allocated from the FY 2014-’15 appropriation; d) Other Funds allocated to the proposed project; e) MSRC match funds requested (per the maximum allowable contributions as discussed in Section I.C., above); and f) additional funding contributions to the project other than MSRC Discretionary Funds, AB 2766 Subvention Funds, or qualifying other funds;
- Part D, “Project Implementation Schedule”, requests the submittal of a schedule depicting key project milestones, task completion dates, etc. Please note that all projects should be completed no later than 36 months from the date of contract execution.
- Certifications – All applicants must complete and submit the following Section V forms as an element of their Application:
 - Internal Revenue Service Form W-9 – Request for Taxpayer Identification Number and Certification, and Franchise Tax Board Form 590 – Withholding Exemption Certificate. If you are selected for an award, you cannot be established as a vendor without this information.
 - Campaign Contributions Disclosure. This information must be provided at the time of application in accordance with California law. You may be asked for an update when awards are considered.

If awarded MSRC Match Funds, Parts A-D will become integral elements of the contract between the applicant and the MSRC.

Cover Letter - The MSRC also requests that each application be accompanied by a signed Cover Letter. The cover letter should be prepared on your City, County, or COG letterhead and be signed by a representative with appropriate signing authority.

II.A: APPLICATION FORMS & TEMPLATES

All of the eligible project categories under the 2015 Edition of the Local Match Program fall into one of six (6) Application Form & Template Sections. These include:

1. **Alternative Fuel Infrastructure Projects** – this includes ALL eligible alternative fuel infrastructure project categories:
 - a. “New Construction” Alternative Fuel Infrastructure with a maximum MSRC match amount per project of \$500,000;
 - b. Upgrade and Expansion of Existing Alternative Fuel Refueling Stations & Modification of Maintenance Facilities with a maximum MSRC match amount per project of \$500,000.
2. **Electric Vehicle Charging Infrastructure** – with a maximum MSRC match amount not to exceed \$500,000 per entity.
3. **Active Transportation Programs** - with a maximum MSRC match amount not to exceed \$500,000 per entity. Active Transportation Outreach & Education Projects are limited to a maximum per entity MSRC match of \$50,000.
4. **New Medium & Heavy-Duty Alternative Fuel Vehicle Purchases** – with a maximum MSRC match amount not to exceed \$10,000 per qualifying medium-duty vehicle and \$30,000 per qualifying heavy-duty vehicle.
5. **Purchase of Zero-Emission Electric Commercial Riding Lawnmowers** – with a maximum MSRC match amount not to exceed \$2,500 or \$5,000 per qualifying zero-emission electric riding lawnmower. The incentive amount is dependent upon the size of the zero-emission riding lawnmower purchased.
6. **Regional Street Sweeping in the Coachella Valley** - with a maximum MSRC match amount not to exceed \$250,000 per entity.

Applicants are required to complete the Forms and Templates corresponding to their proposed project category and submit them in PDF Format to the MSRC Website within the application submittal period commencing June 2, 2015 and ending September 4, 2015. The following six sections contain the necessary forms and templates to prepare an MSRC Match Program application.

II.B. ALTERNATIVE FUEL INFRASTRUCTURE PROJECTS

The MSRC Match Program offers incentives for a wide range of alternative fuel infrastructure projects. The following sections describe allowable infrastructure project categories, conditions and constraints, as well as Clean Transportation Funding™ incentive levels.

1. **NEW ALTERNATIVE FUEL REFUELING STATIONS** – Most refueling station types are eligible to receive a funding match. Allowable station configurations include fast-fill stations, slow or time-fill stations, and refueling apparatus. In addition, mobile refueling stations for onsite dispensing of hydrogen fuel are eligible under this category.

Eligible Alternative Fuel Types - The following alternative fuel types are eligible to receive refueling infrastructure Match funding:

- Compressed Natural Gas (CNG)
- Liquefied Natural Gas (LNG)
- Liquefied/Compressed Natural Gas (L/CNG)
- Motor vehicle-grade Liquefied Petroleum Gas (HD-5, HD-10 propane)
- Hydrogen (H₂) and/or Hydrogen/Natural Gas Blends

The maximum MSRC match amount for this project category shall not exceed \$500,000 per station.

Accessibility Requirements – An objective of the Match Program is to increase the accessibility of alternative-fuel infrastructure to fleets and public users. For this reason, Applicants proposing construction of a new fast-fill refueling station are required to allow access to the facility during normal business hours to at least one (1) additional fleet. For the purpose of this program, “additional fleet” is defined as another fleet distinct from the host site fleet. This other fleet must be a separate legal entity relative to the host site fleet. As an example, two separate departments within a local government would not satisfy the intent of the “multiple fleet” requirement, as the departments would most likely not be separate legal entities. However, many local governments contain “dependent and independent special districts”. A dependent or independent special district would satisfy the “other fleet” requirement.

2. **UPGRADE AND EXPANSION OF EXISTING ALTERNATIVE FUEL REFUELING STATIONS** – Cities or Counties who operate existing CNG or LNG stations seeking upgrades or expansion to accommodate growing fleet or throughput needs are also eligible to participate in the MSRC Match Program. Eligible refueling station upgrade and expansion projects include, but are not limited to, the following:
 - Expansion of fuel storage capacity with additional storage vessels;
 - Increase in fuel compression capability by adding an additional compression stage or replacing an undersized compressor;
 - Addition of L/CNG capability to an existing LNG-only facility;
 - Addition of hydrogen or hydrogen-blend capability to an existing station;

- Station modifications to allow public accessibility;
- Upgrade of existing payment card reader to accommodate multi-card capability;
- Additional fuel dispenser(s).

The maximum MSRC match amount for this project category shall not exceed \$500,000 per station.

3. **FACILITY MODIFICATIONS TO ACCOMMODATE ALTERNATIVE FUELS** – In addition to refueling stations, MSRC match funding is available to Cities and Counties for the modification of facilities used for alternative fuel vehicle maintenance and repair. Allowable facility modifications include, but are not limited to, the following:

- Installation of building methane detection sensors;
- Electrical shielding;
- Heater element explosion proofing;
- Gas evacuation and ventilation upgrades.

The maximum MSRC match amount per project for this category shall not exceed \$500,000.

Project applications that do not reasonably fit within the Eligible Project Categories will not be approved and will not be eligible to receive MSRC Clean Transportation Funding™. The MSRC retains sole discretion when determining project eligibility.

Funding Restrictions: MSRC funds cannot be used to match the following project elements:

- Normal station maintenance or operations costs (including utility costs), or fuel purchase costs;
- Purchase of real property.

Operational Availability - Funding recipients must commit to the following minimum periods of operational availability:

- Fast-fill refueling stations remain operational and accessible to public and/or fleets for a period of no less than five (5) years from the date the station begins dispensing fuel in either its initial or expanded capability;
- Time-fill, single dispenser, or apparatus-type stations must remain operational for a period of no less than three (3) years from the date the station begins dispensing fuel in either its new or upgraded/expanded capability

ALTERNATIVE FUEL INFRASTRUCTURE APPLICATION FORMS

PART A - APPLICANT INFORMATION – PA2015-11

(Return this Form as part of your Match Program application)

A. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

Contractor Registration
Number: _____

B. Please answer the following questions:

YES

NO

1. Are you submitting a Joint Application with other Cities/Counties?

2. If "Yes", are you authorized to act on behalf of all participants?

3. If "Yes", please provide the names of all other project participants.

Please designate if the other participants are public agencies or
private entities:

Public

Private

a) _____

b) _____

PART B - PROJECT DESCRIPTION/STATEMENT OF WORK

Alternative Fuel Infrastructure Projects

(Return this Form as part of your Match Program application only if you are applying for Alternative Fuel Infrastructure Match Funding)

A. Please check the type of Infrastructure Project proposed. Check all that apply:

- New Alternative Fuel Refueling Infrastructure
- Mobile Hydrogen Refueling
- Expansion of an Existing Refueling Facility
- Upgrade to an Existing Refueling Facility
- Site Modifications to Allow Public and/or Fleet Vehicle Access
- Maintenance Facility Modifications

B. **PROJECT DESCRIPTION:** Please describe the proposed alternative-fuel infrastructure project, including: a) technical description (i.e., station configuration, hardware, storage capacity, time-fill and fast-fill capacity, number of dispensers, etc.; b) site location; c) level of public accessibility (i.e., available to all users, accessible to limited fleet users only); d) hours of operation; e) primary fleet users; f) types of vehicles that will primarily utilize the facility (i.e., transit buses, school buses, light-duty automobiles); and g) selected hardware vendor and fuel provider, if known. If applicable to your proposed project, please attach an 8 ½" x 11" Site Map/Plan to this PART. Include extra sheets as required.

Please provide the following input data as applicable:

Type of Alternative Fuel (CNG, LNG, L/CNG, LPG, H ₂)	
For New Refueling Stations, Provide the Estimated Monthly Alternative Fuel Throughput in Units of Diesel Equivalent Gallons.	
For Projects that Propose: a) Increased Capacity of Existing Alternative-Fuel Infrastructure; or b) Expanded Public or Fleet Access of Existing Alternative-Fuel Infrastructure, Provide the Projected Monthly Increase in Alternative-Fuel Throughput Expressed in Units of Diesel Equivalent Gallons.	

C. **STATEMENT OF WORK:** Please provide a Statement of Work for the proposed alternative fuel infrastructure project. Include all Project Tasks as they relate to infrastructure design, development, and implementation. Each Task should be described with sufficient detail to adequately convey the work to be performed.

If applicable to your proposed project, please attach an 8 ½" x 11" Site Map/Plan to this PART.

PART C - PROJECT BUDGET

Alternative Fuel Infrastructure Projects

(Return this Form as part of your Match Program application only if you are applying for Alternative Fuel Infrastructure match funding)

A. Please provide your Current Unallocated Subvention Fund Balance: \$ _____

B. Please provide the following Alternative Fuel Infrastructure Project Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
1. AB 2766 SUBVENTION FUNDS APPLIED TO INFRASTRUCTURE PROJECT FROM EXISTING UNALLOCATED BALANCE:	\$ _____
2. AB 2766 SUBVENTION FUNDS APPLIED TO INFRASTRUCTURE PROJECT FROM NEXT YEAR ALLOCATION (FY 2015/2016):	\$ _____
3. OTHER FUNDS APPLIED TO INFRASTRUCTURE PROJECT (NOT TO EXCEED \$500,000 TOTAL PER ENTITY):	\$ _____
4. TOTAL AB 2766 SUBVENTION FUNDS AND OTHER FUNDS APPLIED TO INFRASTRUCTURE PROJECT (SUM OF LINES 1, 2, and 3):	\$ _____
5. AMOUNT OF MSRC MATCH FUNDING REQUESTED (MAXIMUM AMOUNT IS EQUAL TO LINE 4 (DOLLAR FOR DOLLAR MATCH OF LINE 4 NOT TO EXCEED \$500,000):	\$ _____
6. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$ _____
7. TOTAL PROJECT COST:	\$ _____

PART C - PROJECT BUDGET CONTINUED

Alternative Fuel Infrastructure Projects

(Return this page as part of your Match Program application only if you are applying for alternative fuel infrastructure match funding)

C. As applicable, please list all infrastructure costs by Cost Element. Please provide as much detail as practicable when specifying project costs. For example, please provide labor categories, hourly rates, number of hours, etc. when defining labor costs.

CAPITAL EQUIPMENT COSTS (REFUELING STATION COMPONENTS, FACILITY MODIFICATIONS, ETC.):

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
5.	_____	\$ _____
TOTAL CAPITAL EQUIPMENT COSTS:		\$ _____

DIRECT LABOR COSTS:

1.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
2.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
3.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
4.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
TOTAL DIRECT LABOR COSTS:		\$ _____

OTHER DIRECT COSTS, INCLUDING SUBCONTRACTORS:

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
TOTAL OTHER DIRECT COSTS:		\$ _____

TOTAL PROJECT COST:	\$ _____
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PART D - PROJECT IMPLEMENTATION SCHEDULE

Alternative Fuel Infrastructure Projects

(Return this page as part of your Match Program application)

Please provide, either in the space outlined below or separate attached sheet, a Milestone Schedule for your proposed Match Program project. The schedule should include anticipated start and completion dates for each task, activity, or milestone identified in PART B, "Project Description/Statement of Work".

The format requirements for the Project Implementation Schedule are flexible. A template is provided below:

PROJECT MILESTONE	START DATE	COMPLETION
Example: Task 1 – Site Design & Permitting...	Authority to Proceed (ATP) + one month	ATP + 3 months

SECTION II.C: PURCHASE OF MEDIUM & HEAVY-DUTY ALTERNATIVE FUEL VEHICLES

Project Requirements and Conditions: The following requirements apply for projects seeking match funds for the purchase of heavy-duty alternative fuel vehicles:

Eligible Vehicle Weight Ratings: Only medium and heavy-duty alternative fuel vehicles are eligible to receive Match Funds.

- A medium-duty vehicle is defined as having a GVWR of 8,501 pounds up to a maximum of 14,000 pounds;
- A heavy-duty vehicle is defined as having a GVWR of 14,001 pounds or greater.

Qualifying Vehicles: Applicants requesting match funds for the purchase of heavy-duty alternative fuel vehicles must ensure the vehicles comply with the following eligibility requirements:

- Vehicle must be a new, Original Equipment Manufacturer (OEM) medium or heavy-duty alternative fuel vehicle;
- Alternative fuel vehicles must be equipped with dedicated alternative fuel engines that are certified by the California Air Resources Board (CARB) at or cleaner than the 2010 heavy-duty engine emission standards of 0.2 g/bhp-hr for oxides of nitrogen (NO_x) and 0.01 g/bhp-hr for particulate matter (PM).
- Vehicle engine must be dedicated alternative fuel. Flexible fuel vehicles, bi-fuel vehicles, etc. do not qualify; however, alternative fuel engines using diesel pilot-ignition technologies are acceptable.

Eligible Alternative Fuels: Vehicles that satisfy the eligibility requirements listed above are available in following alternative-fuels:

- Compressed Natural Gas (CNG)
- Liquefied Natural Gas (LNG)
- Liquefied Petroleum Gas (LPG, i.e., propane)
- Hydrogen and/or Hydrogen/Natural Gas Blends
- Hybrid-Electric (Alternative Fuel)
- Hybrid-Electric (Gasoline Hybrid Electric)
- Zero-emission Battery or Hydrogen Fuel Cell Electric

Maximum MSRC Match Funding: The MSRC Match Program will co-fund the purchase of qualifying medium and heavy-duty alternative fuel vehicles on a “dollar for dollar” basis.

- Qualifying medium-duty alternative fuel vehicles are eligible to receive a maximum MSRC contribution of \$10,000 per vehicle;
- Qualifying heavy-duty alternative fuel vehicles are eligible to receive a maximum MSRC contribution of \$30,000 per vehicle.

The MSRC match funds will be disbursed on a reimbursement basis upon delivery and acceptance of the qualifying vehicle.

MEDIUM & HEAVY-DUTY VEHICLE PURCHASE APPLICATION FORMS

PART A - APPLICANT INFORMATION – PA2015-11
Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles
(Return this page as part of your Match Program application)

A. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

B. Please answer the following questions:

- | | YES | NO |
|---|--------------------------|--------------------------|
| 1. Are you submitting a Joint Application with other Cities/Counties? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. If "Yes", are you authorized to act on behalf of all participants? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3. If "Yes", please provide the names of all other project participants.
Please designate if the other participants are public agencies or
private entities: | PUBLIC | PRIVATE |
| a) _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| b) _____ | <input type="checkbox"/> | <input type="checkbox"/> |
| 4. If you answered "Yes" to questions 1 and 2, above, have you
attached a letter from each entity designating a lead agency and
authorizing that agency to act on behalf of the other participants? | YES | NO |
| | <input type="checkbox"/> | <input type="checkbox"/> |

PART B – PROJECT DESCRIPTION/STATEMENT OF WORK

Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles

(Return this page as part of your Match Program application only if you are applying for alternative fuel vehicle match funding)

A. **PROJECT DESCRIPTION:** Describe the proposed alternative-fuel vehicle purchase(s). For each vehicle to be purchased, please provide the information in the table below, or attach a separate sheet:

1. Vehicle make and model;
2. Fuel Type (CNG, LNG, LPG, etc.) ;
3. Engine model, including horsepower;
4. Gross vehicle weight rating;
5. Estimated vehicle life;
6. Vehicle duty cycle (i.e., trash collection, local delivery, etc.)
7. Annual operation within the geographical jurisdiction of the South Coast Air District (indicate whether mileage or hours)

	Vehicle Make & Model	Fuel Type	Engine Model & Horsepower	Gross Vehicle Weight Rating	Vehicle Life (years)	Vehicle Duty Cycle	Annual Vehicle Operation (hours or mileage)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Total Number of Medium-Duty Alt-Fuel Vehicles (GVWR 8,501-14,000 pounds): _____

Total Number of Heavy-Duty Alt-Fuel Vehicles (GVWR >14,000 pounds): _____

PART C – PROJECT BUDGET

Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles

(Return this page as part of your Match Program application only if you are applying for Alternative Fuel Heavy-Duty Vehicle match funding)

A. Please provide your Current Unallocated Subvention Fund Balance: \$_____

B. Please provide the following Alternative Fuel Vehicle Purchase Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
1. AB 2766 SUBVENTION FUNDS APPLIED TO VEHICLE PURCHASES FROM EXISTING UNALLOCATED BALANCE:	\$_____
2. AB 2766 SUBVENTION FUNDS APPLIED TO VEHICLE PURCHASES FROM FUTURE YEAR ALLOCATION (FY 2015/2016):	\$_____
3. OTHER FUNDS APPLIED TO ALT-FUEL VEHICLE PURCHASES (NOT TO EXCEED \$500,000 TOTAL PER ENTITY):	\$_____
4. TOTAL AB 2766 SUBVENTION FUNDS AND OTHER FUNDS APPLIED TO ALT-FUEL VEHICLE PURCHASES (SUM OF LINES 1, 2, AND 3):	\$_____
5. AMOUNT OF MSRC MATCH FUNDING REQUESTED FOR MEDIUM DUTY VEHICLE PURCHASE (\$1 FOR \$1 MATCH UP TO \$10,000 PER VEHICLE):	\$_____
6. AMOUNT OF MSRC MATCH FUNDING REQUESTED FOR HEAVY DUTY VEHICLE PURCHASE (\$1 FOR \$1 MATCH UP TO \$30,000 PER VEHICLE):	\$_____
7. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$_____
8. TOTAL PROJECT COST:	\$_____

PART D – PROJECT IMPLEMENTATION SCHEDULE
Purchase of Medium & Heavy-Duty Alternative Fuel Vehicles
 (Return this page as part of your Match Program application)

Please provide, either in the space outlined below or separate attached sheet, a Milestone Schedule for your proposed vehicle purchase project. The schedule should include anticipated start and completion dates for each task, activity, or milestone identified in PART B, “Project Description/Statement of Work”.

The format requirements for the Project Implementation Schedule are flexible. A template is provided below:

PROJECT MILESTONE	START DATE	COMPLETION
Example: Task 1 – Order Vehicle	Authority to Proceed (ATP) + one month	ATP + 3 months

SECTION II.D: COMMERCIAL ZERO EMISSION ELECTRIC RIDING LAWNMOWERS

This element of the 2015 Match Program offers incentives to local governments to purchase zero-emission commercial riding lawnmowers. This equipment is typically powered by battery-electric motors as opposed to gasoline engines. The MSRC Match Program will co-fund the purchase of qualifying zero-emission commercial riding lawnmowers on a “dollar for dollar” basis, as follows:

- Qualifying zero-emission commercial riding lawnmowers with a cut width less than 50 inches are eligible to receive a maximum MSRC contribution of \$2,500 per vehicle;
- Qualifying zero-emission commercial riding lawnmowers with a cut with greater than or equal to 50 inches are eligible to receive a maximum MSRC contribution of \$5,000 per vehicle.

The MSRC match funds will be disbursed on a reimbursement basis upon delivery and acceptance of the qualifying lawnmower.

ZERO-EMISSION COMMERCIAL LAWNMOWER FORMS

PART A - APPLICANT INFORMATION – PA2015-11

Zero-Emission Commercial Lawnmowers

(Return this page as part of your Match Program application)

A. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

B. Please answer the following questions:

YES

NO

1. Are you submitting a Joint Application with other Cities/Counties?

2. If "Yes", are you authorized to act on behalf of all participants?

3. If "Yes", please provide the names of all other project participants.

Please designate if the other participants are public agencies or private entities:

PUBLIC

PRIVATE

a) _____

b) _____

PART B – PROJECT DESCRIPTION/STATEMENT OF WORK

Zero-Emission Commercial Lawnmowers

(Return this page as part of your Match Program application)

PROJECT DESCRIPTION: Please describe the proposed zero-emission lawnmower purchase project, including: a) technical description of the proposed hardware (i.e., electric lawnmower unit model, manufacturer, equipment specifications, etc.)

PART C - PROJECT BUDGET

Zero-Emission Commercial Lawnmowers

(Return this Form as part of your Match Program application only if you are applying for Zero-emission commercial lawnmower match funding)

A. Please provide your Current Unallocated Subvention Fund Balance: \$ _____

B. Please provide the following Zero-Emission Commercial Lawnmower Project Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
1. AB 2766 SUBVENTION FUNDS APPLIED TO LAWNMOWER PURCHASE FROM EXISTING UNALLOCATED BALANCE:	\$ _____
2. AB 2766 SUBVENTION FUNDS APPLIED TO LAWNMOWER PURCHASE FROM NEXT YEAR ALLOCATION (FY 2015/2016):	\$ _____
3. OTHER FUNDS APPLIED TO LAWNMOWER PURCHASE (NOT TO EXCEED \$500,000 TOTAL PER ENTITY):	\$ _____
4. TOTAL AB 2766 SUBVENTION FUNDS AND OTHER FUNDS APPLIED TO LAWNMOWER PURCHASE (SUM OF LINES 1, 2, and 3):	\$ _____
5. AMOUNT OF MSRC MATCH FUNDING REQUESTED FOR RIDING LAWNMOWERS WITH CUT WIDTH < 50 INCHES (DOLLAR FOR DOLLAR MATCH OF UP TO \$2,500 PER VEHICLE):	\$ _____
6. AMOUNT OF MSRC MATCH FUNDING REQUESTED FOR RIDING LAWNMOWERS WITH CUT WIDTH ≥ 50 INCHES (DOLLAR FOR DOLLAR MATCH OF UP TO \$5,000 PER VEHICLE):	\$ _____
7. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$ _____
8. TOTAL PROJECT COST:	\$ _____

SECTION II.E: ELECTRIC VEHICLE CHARGING INFRASTRUCTURE (EVSE)

This element of the 2015 Match Program offers incentives to local governments to install electric vehicle charging infrastructure within their jurisdictions. For the purpose of this Match Program category, eligible electric vehicle charging infrastructure includes the following elements:

- Purchase of electric vehicle charger hardware;
- Site design specific to charger hardware installation;
- Installation of electric vehicle chargers, including site preparation and construction;
- Electric charging station directional signage.

Please note that general planning related to electric vehicle charger placement is not an eligible match element under the MSRC Match Program.

The MSRC will match qualifying electric vehicle charging infrastructure projects on a dollar for dollar basis up to a maximum of \$500,000 per entity.

Operational Availability - Funding recipients must commit to the following minimum periods of operational availability:

- DC Fast Charge (or equivalent) stations remain operational for a period of no less than five (5) years from the date the station commences operation;
- Level II (or equivalent) stations must remain operational for a period of no less than three (3) years from the date the station commences operation.

ELECTRIC VEHICLE CHARGING INFRASTRUCTURE FORMS

PART A - APPLICANT INFORMATION – PA2015-11

Electric Vehicle Charging Infrastructure

(Return this page as part of your Match Program application)

C. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

Contractor Registration
Number: _____

D. Please answer the following questions:

YES

NO

4. Are you submitting a Joint Application with other Cities/Counties?

5. If "Yes", are you authorized to act on behalf of all participants?

6. If "Yes", please provide the names of all other project participants.
Please designate if the other participants are public agencies or
private entities:

PUBLIC

PRIVATE

a) _____

b) _____

PART B – PROJECT DESCRIPTION/STATEMENT OF WORK

Electric Vehicle Charging Infrastructure

(Return this page as part of your Match Program application)

- A. **PROJECT DESCRIPTION:** Please describe the proposed electric vehicle charging infrastructure project, including: a) technical description of the proposed hardware (i.e., charger types, charger unit model, manufacturer, charging level or rated power; etc.); b) site locations for charging infrastructure installation; and c) level of public accessibility (i.e., available to all users, accessible to city/county fleet vehicles only, etc.).
- B. **STATEMENT OF WORK:** Please provide a Statement of Work for the proposed electric vehicle charging infrastructure project. Include all Project Tasks as they relate to project design, development, and implementation. Each Task should be described with sufficient detail to adequately convey the work to be performed.

PART C - PROJECT BUDGET

Electric Vehicle Charging Infrastructure

(Return this Form as part of your Match Program application only if you are applying for electric vehicle charging infrastructure match funding)

C. Please provide your Current Unallocated Subvention Fund Balance: \$ _____

D. Please provide the following Electric Vehicle Charging Infrastructure Project Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
9. AB 2766 SUBVENTION FUNDS APPLIED TO INFRASTRUCTURE PROJECT FROM EXISTING UNALLOCATED BALANCE:	\$ _____
10. AB 2766 SUBVENTION FUNDS APPLIED TO EV INFRASTRUCTURE PROJECT FROM NEXT YEAR ALLOCATION (FY 2015/2016):	\$ _____
11. OTHER FUNDS APPLIED TO EV INFRASTRUCTURE PROJECT (NOT TO EXCEED \$500,000 TOTAL PER ENTITY):	\$ _____
12. TOTAL AB 2766 SUBVENTION FUNDS AND OTHER FUNDS APPLIED TO EV INFRASTRUCTURE PROJECT (SUM OF LINES 1, 2, and 3):	\$ _____
13. AMOUNT OF MSRC MATCH FUNDING REQUESTED (MAXIMUM AMOUNT IS EQUAL TO LINE 4 (DOLLAR FOR DOLLAR MATCH OF LINE 4 NOT TO EXCEED \$500,000):	\$ _____
14. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$ _____
15. TOTAL PROJECT COST:	\$ _____

PART C - PROJECT BUDGET CONTINUED

Electric Vehicle Charging Infrastructure

(Return this page as part of your Match Program application only if you are applying for electric vehicle charging infrastructure match funding)

A. As applicable, please list all EV infrastructure costs by Cost Element. Please provide as much detail as practicable when specifying project costs. For example, please provide labor categories, hourly rates, number of hours, etc. when defining labor costs.

CAPITAL EQUIPMENT COSTS (ELECTRIC VEHICLE CHARGGR HARDWARE, SITE MODIFICATIONS, ETC.):

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
5.	_____	\$ _____
TOTAL CAPITAL EQUIPMENT COSTS:		\$ _____

DIRECT LABOR COSTS:

1.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
2.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
3.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
4.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
TOTAL DIRECT LABOR COSTS:		\$ _____

OTHER DIRECT COSTS, INCLUDING SUBCONTRACTORS:

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
TOTAL OTHER DIRECT COSTS:		\$ _____

TOTAL PROJECT COST:	\$ _____
----------------------------	-----------------

PART D - PROJECT IMPLEMENTATION SCHEDULE

Electric Vehicle Charging Infrastructure

(Return this page as part of your Match Program application)

Please provide, either in the space outlined below or separate attached sheet, a Milestone Schedule for your proposed Match Program project. The schedule should include anticipated start and completion dates for each task, activity, or milestone identified in PART B, "Project Description/Statement of Work".

The format requirements for the Project Implementation Schedule are flexible. A template is provided below:

PROJECT MILESTONE	START DATE	COMPLETION
Example: Task 1 – Site Design & Permitting...	Authority to Proceed (ATP) + one month	ATP + 3 months

SECTION II.F: ACTIVE TRANSPORTATION PROGRAMS

This element of the 2015 Match Program offers incentives to local governments to implement projects that encourage active modes of transportation, including commuter-oriented bicycling and walking. Eligible projects include, but are not necessarily limited to:

Active Transportation Infrastructure & Demonstration Projects

A. Pedestrian Access Projects:

- “Complete Streets” Pedestrian Access projects

B. Bicycle & Related Projects:

- Bicycle Lanes (Class I & II)
- Bicycle Shared Lane Markings/Sharrows
- Bicycle Infrastructure
 - Bike Lockers
 - Bike Racks
 - “Bike Station”-type Amenities at City or County-Owned Transit Stations
 - Bike Racks on Buses
 - Road Surface Bicycle Detection Systems
 - Bicycle Corrals at Intersections/Other Pavement Markings
- Bicycle Purchases (non-recreational)
- Bike Sharing Programs (must be local-government sponsored & Commuter Oriented)
 - Bike Sharing Infrastructure
 - Bicycles
 - Docking Equipment
 - Bike Sharing Technology Hardware & Software

The MSRC will match qualifying bicycle infrastructure and related projects on a dollar for dollar basis up to a maximum of \$500,000 per entity.

C. Active Transportation Outreach & Education Projects

In addition, the MSRC is allowing jurisdictions to receive a match for Active Transportation Outreach & Education Projects. ***This category is limited to a maximum MSRC match of \$50,000.*** As noted in Section I.B.3. above, SCAQMD’s AB 2766 Subvention Fund Program Resource Guide provides that funds used for public education programs should not exceed a total of 10% of the jurisdiction’s annual Subvention Funds.

Please note that the following active transportation projects are not eligible to receive funding under the MSRC Match Program:

- Active Transportation Planning that does not include a demonstration or outreach component
- Class III Bicycle Route Signage

Please note that the TOTAL MSRC match for parts A, B, and C is a maximum of \$500,000 per entity.

BICYCLE INFRASTRUCTURE & RELATED PROGRAMS FORMS

PART A - APPLICANT INFORMATION – PA2015-11

Active Transportation Projects

(Return this page as part of your Match Program application)

A. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

Contractor Registration
Number: _____

B. Please answer the following questions: **YES** **NO**

7. Are you submitting a Joint Application with other Cities/Counties?

8. If "Yes", are you authorized to act on behalf of all participants?

9. If "Yes", please provide the names of all other project participants.
Please designate if the other participants are public agencies or
private entities:

PUBLIC **PRIVATE**

a) _____

b) _____

PART B – PROJECT DESCRIPTION/STATEMENT OF WORK

Active Transportation Programs

(Return this page as part of your Match Program application)

- A. Please indicate the category(s) of Bicycle Infrastructure or Related Programs for which an MSRC funding match is sought:

Pedestrian Projects

- Complete Streets Pedestrian Access Projects

Bicycle-Related Projects

- Bicycle Lanes (Class I & II)
- Bicycle Shared Lane Markings/Sharrows

Bicycle Infrastructure

- Bike Lockers
- Bike Racks
- “Bike Station”-type Amenities at City or County-Owned Transit Stations
- Bike Racks on Buses
- Road Surface Bicycle Detection Systems
- Bicycle Corrals at Intersections/Other Pavement Markings
- Bicycle Purchases (non-recreational)

Bike Sharing Programs

- Bicycles
- Docking Equipment
- Bike Sharing Technology Hardware & Software

Active Transportation Outreach & Education Projects

- Outreach & Education (\$50,000 maximum MSRC Match limitation; also see Section I.B.3.)

- B. **PROJECT DESCRIPTION:** Please describe the proposed Active Transportation project, including: a) technical description of the proposed project:
- i. For Complete Streets pedestrian access projects, please include a description of the proposed pedestrian improvements, including location, major employment sites or activity centers located along the proposed route(s);
 - ii. For Bicycle Lane or shared access projects, please include a description of the proposed bicycle routes, including Class, length, and major employment sites or activity centers located along the proposed route(s);

- iii. For Bicycle Infrastructure Projects, please provide a listing of the proposed infrastructure, including a description of the infrastructure, number of units proposed for purchase/installation, and other pertinent information as appropriate to the specific project;
- iv. For Bicycle Purchases, please provide a specification of each bicycle (make and model, special features, etc.), the number of units proposed for purchase, and a description of how the bicycles will be deployed in non-recreational service. Note that only bicycle purchases intended to eliminate an automobile trips are eligible under this Program;
- v. For Bike Sharing Projects, please provide a technical description of the overall bike sharing program and how the MSRC co-funded components integrate into the overall bike share program;
- vi. For Active Transportation Outreach & Education Programs, please provide a description of the outreach/education activities and the specific uses of MSRC Funds. The maximum MSRC match amount for Active Transportation Outreach & Education Projects is \$50,000; also see Section I.B.3.

C. **STATEMENT OF WORK:** Please provide a Statement of Work for the proposed bicycle infrastructure or related project. Include all Project Tasks as they relate to project design, development, and implementation. Each Task should be described with sufficient detail to adequately convey the work to be performed.

PART C - PROJECT BUDGET

Active Transportation Programs

(Return this Form as part of your Match Program application only if you are applying for Active Transportation Program match funding)

A. Please provide your Current Unallocated Subvention Fund Balance: \$ _____

B. Please provide the following Active Transportation Project Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
1. AB 2766 SUBVENTION FUNDS APPLIED TO ACTIVE TRANSPORTATION PROJECT FROM EXISTING UNALLOCATED BALANCE:	\$ _____
2. AB 2766 SUBVENTION FUNDS APPLIED TO ACTIVE TRANSPORTATION PROJECT FROM NEXT YEAR ALLOCATION (FY 2015/2016):	\$ _____
3. OTHER FUNDS APPLIED TO ACTIVE TRANSPORTATION PROJECT (NOT TO EXCEED \$500,000):	\$ _____
4. TOTAL AB 2766 SUBVENTION FUNDS AND OTHER FUNDS APPLIED TO PROJECT (SUM OF LINES 1, 2, and 3):	\$ _____
5. AMOUNT OF MSRC MATCH FUNDING REQUESTED (MAXIMUM AMOUNT IS EQUAL TO LINE 4 (DOLLAR FOR DOLLAR MATCH OF LINE 4 NOT TO EXCEED \$500,000*):	\$ _____
6. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$ _____
7. TOTAL PROJECT COST:	\$ _____

*Active Transportation Education & Outreach Projects are limited to a maximum MSRC match of \$50,000; also see Section I.B.3..

PART C - PROJECT BUDGET CONTINUED

Active Transportation Programs

(Return this page as part of your Match Program application only if you are applying for bicycle infrastructure or related program match funding)

C. As applicable, please list all active transportation project costs by Cost Element. Please provide as much detail as practicable when specifying project costs. For example, please provide labor categories, hourly rates, number of hours, etc. when defining labor costs.

CAPITAL EQUIPMENT COSTS (bicycles or related infrastructure hardware, etc.):

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
5.	_____	\$ _____
TOTAL CAPITAL EQUIPMENT COSTS:		\$ _____

DIRECT LABOR COSTS:

1.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
2.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
3.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
4.	_____ LABOR HOURS x _____ \$/HOUR =	\$ _____
TOTAL DIRECT LABOR COSTS:		\$ _____

OTHER DIRECT COSTS, INCLUDING SUBCONTRACTORS:

1.	_____	\$ _____
2.	_____	\$ _____
3.	_____	\$ _____
4.	_____	\$ _____
TOTAL OTHER DIRECT COSTS:		\$ _____

TOTAL PROJECT COST:	\$ _____
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PART D - PROJECT IMPLEMENTATION SCHEDULE

Active Transportation Programs

(Return this page as part of your Match Program application)

Please provide, either in the space outlined below or separate attached sheet, a Milestone Schedule for your proposed Match Program project. The schedule should include anticipated start and completion dates for each task, activity, or milestone identified in PART B, "Project Description/Statement of Work".

The format requirements for the Project Implementation Schedule are flexible. A template is provided below:

PROJECT MILESTONE	START DATE	COMPLETION
Example: Task 1 – Site Design & Permitting...	Authority to Proceed (ATP) + one month	ATP + 3 months

SECTION II.G. STREET SWEEPING OPERATIONS IN THE COACHELLA VALLEY

This Section describes MSRC match funding for street sweeping operations conducted in the Coachella Valley region of the SCAQMD. For the purpose of this Program Announcement, “operations costs” include direct costs for labor, maintenance, etc, associated with performing street sweeping. These costs are most often presented as an hourly operations cost or cost per “curb mile swept”.

Project Requirements and Conditions: The following requirements affect applicants seeking match funds for street sweeping operations:

Eligible Jurisdictions: Applicant jurisdiction is within the Coachella Valley as defined by the SCAQMD and thereby impacted by the PM control measures delineated in the Coachella Valley SIP.

Sweeping to be Performed by Qualifying Vehicles: Applicants requesting match funds for street sweeping operations must ensure the vehicles utilized in sweeping operations comply with the following:

- Vehicle must be dedicated alternative fuel. For the purpose of this Program Announcement, alternative fuel includes compressed natural gas (CNG), liquefied natural gas (LNG), liquefied petroleum gas (LPG), hydrogen or hydrogen natural gas blends, electric, or gasoline hybrid electric;
- Vehicle must conform to the requirements as delineated in SCAQMD Rule 1186.1.

Eligible Project Costs – When applying for street sweeping operations funding, costs should be represented as either “operations cost per curb mile swept” or “operations cost per operating hour”. Please note, however, that only the following operations cost elements are eligible to receive an MSRC funding match:

- Labor Costs – Labor costs associated with street sweeper operator and maintenance staff are eligible operations cost components;
- Alternative Fuel Costs – The cost of street sweeper alternative fuel is an eligible operations cost component;
- Other Direct Costs – Non-administrative direct costs, including but not limited to vehicle insurance, normal vehicle maintenance in addition to labor, etc, are allowable operations cost elements.

The MSRC will match qualifying street sweeping projects on a dollar for dollar basis up to a maximum of \$250,000 per entity. *Please note that because the street sweeping category is limited to the Coachella Valley, only AB 2766 Subvention Funds will be matched by the MSRC.*

Ineligible Project Costs – The following project cost elements are not eligible to receive an MSRC funding match:

- Vehicle Acquisition Costs - Capital costs associated with vehicle purchase or lease are not eligible as an operations cost element. This includes vehicle capital cost, principal, interest, etc. The street sweeping vehicle monthly payment cannot be included as a component of the cost per curb mile sweep or cost per vehicle hour;
- Maintenance Facility Costs – The cost of street sweeper vehicle maintenance facilities, including but not limited to structures, real property, and improvements cannot be amortized over the cost per curb mile sweep or cost per vehicle hour.

STREET SWEEPING OPERATIONS APPLICATION FORMS

PART A - APPLICANT INFORMATION – PA2015-11

Street Sweeping Operations

(Return this page as part of your Match Program application)

A. Please provide the following applicant information in the space provided.

Applicant Name: _____

Address: _____

Contact Person: _____ Title: _____

Telephone Number: _____ Fax #: _____

E-Mail Address: _____

B. Please answer the following questions:

YES NO

- | | | |
|---|--------------------------|--------------------------|
| 1. Are you submitting a Joint Application with other Cities/Counties? | <input type="checkbox"/> | <input type="checkbox"/> |
| 2. If "Yes", are you authorized to act on behalf of all participants? | <input type="checkbox"/> | <input type="checkbox"/> |

PART B - PROJECT DESCRIPTION/STATEMENT OF WORK

Street Sweeping Operations in the Coachella Valley

(Return this page as part of your Match Program application only if you are applying for street sweeping match funding)

- A. **PROJECT DESCRIPTION:** Please provide the following information in the space below or attach additional sheets as necessary:
1. **Please provide a concise description of the routes proposed for street sweeping.** This should include, at a minimum: a) names or other designation(s) for streets to be swept; b) length (curb miles) for each street sweeping route proposed; c) the frequency of street sweeping for each proposed route. A map of the region with proposed street sweeping routes highlighted should be included if available.
 2. **Please provide a description of the street sweeping vehicles to be used.** For each vehicle that may be used in street sweeping operations, please include: a) sweeper model; b) sweeper model year; c) alternative fuel type used; d) primary and auxiliary engine make and model; and e) primary and auxiliary engine model year.

PART C - PROJECT BUDGET

Street Sweeping Operations in the Coachella Valley

(Return this page as part of your Match Program application only if you are applying for street sweeping match funding)

A. Please provide your Current Unallocated Subvention Fund Balance: \$ _____

B. Please provide the following street sweeping operations Cost by Category Information:

PROJECT COSTS BY FUNDING CATEGORY	AMOUNT
1. AB 2766 SUBVENTION FUNDS APPLIED TO STREET SWEEPING PROJECT FROM EXISTING UNALLOCATED BALANCE:	\$ _____
2. AB 2766 SUBVENTION FUNDS APPLIED TO STREET SWEEPING PROJECT FROM NEXT YEAR ALLOCATION (FY 2015/2016):	\$ _____
3. TOTAL AB 2766 SUBVENTION FUNDS APPLIED TO STREET SWEEPING PROJECT (SUM OF LINES 1 and 2):	\$ _____
4. AMOUNT OF MSRC MATCH FUNDING REQUESTED (MAXIMUM AMOUNT IS EQUAL TO LINE 4 (DOLLAR FOR DOLLAR MATCH OF LINE 3 NOT TO EXCEED \$250,000):	\$ _____
5. ADDITIONAL PROJECT CO-FUNDING FROM OTHER SOURCES:	\$ _____
6. TOTAL PROJECT COST:	\$ _____

Please provide the following street sweeping operations cost information.

Please List the Specific Cost Components that Comprise the “Per Mile” or “Per Hour” Operations Cost. Please Specify If Cost is Based On:

- Curb Mile Swept
- Hour of Sweeper Operation
- Other (Please Describe)

1. _____ \$ _____

2. _____ \$ _____

Average Per “Mile” or “Hour” Operations Cost: \$ _____

PART D - PROJECT IMPLEMENTATION SCHEDULE

Street Sweeping Operations in the Coachella Valley

(Return this page as part of your Match Program application)

Please provide, either in the space outlined below or separate attached sheet, a Milestone Schedule for your proposed Match Program project. The schedule should include anticipated start and completion dates for each task, activity, or milestone identified in Exhibit B, "Project Description/Statement of Work".

The format requirements for the Project Implementation Schedule are flexible. A template is provided below:

PROJECT MILESTONE	START DATE	COMPLETION
Example: Task 1 – Identify routes to be swept	Authority to Proceed (ATP) + one week or Date	ATP + 1 week
Example: Task 2 – Commence sweeping operations on Route 1	ATP + 2 weeks	ATP + 6 months

III. ELECTRONIC APPLICATION SUBMITTAL PROCESS

In an effort to reduce the need to photocopy, package, and physically submit paper applications, the 2015 Edition of the Match Program requires that applications be submitted electronically in PDF format using the MSRC Website. We believe this benefits the applicant, the MSRC staff, and the environment. As the online submittal process is a “new way of doing business” for both the MSRC and the project applicant, a tutorial has been developed to walk applicants step by step through the electronic application submittal process.

The application that will be submitted as a **PDF document** is comprised of six (6) primary sections – these correspond to the Cover Letter, Certifications and application Parts A-D as described in the preceding section.

Thus, a complete application will be comprised of the following five elements:

1. Signed Cover Letter;
2. Part A - Applicant Information
3. Part B - Project Description/Statement of Work;
4. Part C - Project Budget;
5. Part D - Project Implementation Schedule; and
6. Certifications.

These six sections are to be compiled into a single PDF document for submittal to the MSRC Clean Transportation Funding Website. Please note that ONLY PDF format can be accepted. Microsoft Word documents cannot be accepted by the MSRC Website.

Applicants will need to register on the MSRC Clean Transportation Funding website. The application submittal tutorial is available at www.cleantransportationfunding.org/proposal_process/upload_proposal.

SECTION IV: APPLICATION CHECKLIST

DID YOU REMEMBER TO...?

- Include a **Cover Letter** signed by an individual authorized to contractually bind the submitting entity?
- Complete and include **PART A**, “Applicant Information”?
- Complete and include **PART B**, “Project Description/Statement of Work”?
- Attach an 8 ½” x 11” Site Map/Plan to PART B, if applicable?
- Complete and include **PART C**, “Project Budget”?
- Complete and include **PART D**, “Project Implementation Schedule”, to your application?
- Complete and include the **Certification** documents?
- Prepare a **PDF document** of your complete application?
- Review the Application Submittal Instructions at www.CleanTransportationFunding.org. Look for the link on the right hand side of the Home Page – “**Proposal Upload Tutorial**” - to view the application submittal tutorial!
- Submit your application electronically? The best date to submit your application is **June 2, 2015!**

Section V: CERTIFICATIONS

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
 - I—A common trust fund as defined in section 584(a)
 - J—A bank as defined in section 581
 - K—A broker
 - L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
 - M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. **Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.
2. **Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
3. **Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.
4. **Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
5. **Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,

4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or

5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, and 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). Exempt recipients, see *Exempt From Backup Withholding* on page 2.

Signature requirements. Complete the certification as indicated in 1 through 5 below.

1. **Interest, dividend, and barter exchange accounts** opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. **Interest, dividend, broker, and barter exchange accounts** opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. **Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.

4. **Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. **Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee)	The grantor-trustee ¹
b. So-called trust account that is not a legal or valid trust under state law	The actual owner ¹
5. Sole proprietorship or single-owner LLC	The owner ³
For this type of account:	Give name and EIN of:
6. Sole proprietorship or single-owner LLC	The owner ³
7. A valid trust, estate, or pension trust	Legal entity ⁴
8. Corporate or LLC electing corporate status on Form 8832	The corporation
9. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
10. Partnership or multi-member LLC	The partnership
11. A broker or registered nominee	The broker or nominee
12. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity

¹List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

²Circle the minor's name and furnish the minor's SSN.

³You must show your individual name and you may also enter your business or "DBA" name on the second name line. You may use either your SSN or EIN (if you have one). If you are a sole proprietor, IRS encourages you to use your SSN.

⁴List first and circle the name of the legal trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.)

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons who must file information returns with the IRS to report interest, dividends, and certain other income paid to you, mortgage interest you paid, the acquisition or abandonment of secured property, cancellation of debt, or contributions you made to an IRA, or Archer MSA or HSA. The IRS uses the numbers for identification purposes and to help verify the accuracy of your tax return. The IRS may also provide this information to the Department of Justice for civil and criminal litigation, and to cities, states, and the District of Columbia to carry out their tax laws. We may also disclose this information to other countries under a tax treaty, to federal and state agencies to enforce federal nontax criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism.

You must provide your TIN whether or not you are required to file a tax return. Payers must generally withhold 28% of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to a payer. Certain penalties may also apply.

YEAR _____

CALIFORNIA FORM

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name _____

Payee

Name _____

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.) _____

City (If you have a foreign address, see instructions.) _____

State _____ ZIP Code _____

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

Individuals — Certification of Residency:

I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

Corporations:

The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.

Partnerships or Limited Liability Companies (LLCs):

The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.

Tax-Exempt Entities:

The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.

Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:

The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.

California Trusts:

At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.

Estates — Certification of Residency of Deceased Person:

I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.

Nonmilitary Spouse of a Military Servicemember:

I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the
United States
916.845.6500 from outside the
United States
TTY/TDD: 800.822.6268 for persons with
hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los
Estados Unidos
916.845.6500 fuera de los Estados
Unidos
TTY/TDD: 800.822.6268 para personas con
discapacidades auditivas
o del habla



CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before the SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website (www.aqmd.gov). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

SECTION I.

Contractor (Legal Name): _____

<input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____

List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
(See definition below).

SECTION II.

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

Yes No **If YES, complete Section II below and then sign and date the form. If NO, sign and date below. Include this form with your submittal.**

Campaign Contributions Disclosure, *continued*:

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
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Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

Name of Contributor _____

Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution
---	------------------------	----------------------

I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) **Parent subsidiary.** A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) **Otherwise related business entity.** Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
 - (A) **One business entity has a controlling ownership interest in the other business entity.**
 - (B) **There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:**
 - (i) **The same person or substantially the same person owns and manages the two entities;**
 - (ii) **There are common or commingled funds or assets;**
 - (iii) **The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;**
 - (iv) **There is otherwise a regular and close working relationship between the entities; or**
 - (C) **A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.**



Alternative Fuel Infrastructure Funding Opportunities

**For New and Expanded Refueling Facilities in the South Coast
Air Quality Management District**

Program Announcement

PA2015-12

May 1, 2015

SECTION 1 - INTRODUCTION

The Mobile Source Air Pollution Reduction Review Committee (MSRC) is pleased to announce the availability of **Clean Transportation Funding™** to assist in the construction of Alternative Fuel Refueling Infrastructure within the South Coast Air Quality Management District (SCAQMD).

This funding opportunity has at its core the following goals and objectives:

- Offer funding opportunities to *most*, if not all, entities interested in pursuing alternative fuel infrastructure projects, including public and private site owners, fleet owners, infrastructure providers, fuel providers, and school districts;
- Provide incentives for the construction or expansion of alternative fuel refueling stations;
- Offer incentives to fleets to upgrade their existing vehicle maintenance facilities to accommodate indoor maintenance of gaseous-fuel vehicles;
- Support fleets purchasing alternative fuel vehicles in compliance with the SCAQMD Fleet Rules, or pursuing vehicle incentives under the SCAQMD Carl Moyer Program.

To reduce the need to photocopy, package, and physically submit paper applications, the 2015 Edition of the Alternative Fuel Infrastructure Program ***requires that applications be submitted electronically in PDF format using the MSRC Website***. We believe this benefits the applicant, the MSRC staff, and the environment. A tutorial has been developed to walk applicants step by step through the electronic application submittal process. This tutorial is available on the MSRC Website at www.CleanTransportationFunding.org. Look for the tutorial button on the right hand side of the Home Page – “Proposal Upload Tutorial”.

The following Sections describe requirements for participation, guidelines for application preparation, as well as maximum incentive levels available as a function of the type of refueling infrastructure proposed and type of entity requesting funding assistance. The Alternative Fuel Infrastructure Program is not a competition in the traditional sense. Funding will be distributed on a first-come, first-served basis to applicants that satisfy specified project requirements. However, as funding is limited, the availability of funds cannot be guaranteed.

MSRC staff members are available to answer questions and provide technical and programmatic guidance as appropriate during the entire application preparation period. Please refer to Section 6 of this document for a list of MSRC Staff contacts.

SECTION 2 - PARTICIPATION GUIDELINES

The following guidelines, requirements, and conditions have been established and apply to all applicants:

1. **Funding Availability** - The amount of MSRC Clean Transportation Funding™ allocated for the Alternative Fuel Infrastructure Program is \$5,000,000.

Please note that this funding level is a targeted amount – should meritorious projects be received totaling greater than the current funding allocation of \$5,000,000, the MSRC reserves the right to increase the amount of total funding available. Also, should the MSRC receive applications with total requests less than the amount allocated, or if proposals are deemed non-meritorious, the MSRC reserves the right to reduce the total funding available and reallocate funds to other Work Program categories. The MSRC also reserves the right to not fund any of the applications received, irrespective of the merits of the applications submitted.

For the purpose of this Program, all qualified project applications received electronically on or before 11:59 p.m. on the first day of the Application Acceptance Period, May 1, 2015, will be deemed received at the same time. In the event the Program is oversubscribed following receipt of first-day applications, an across-the-board pro-rating factor will be determined so that all qualified project applications will receive the same percentage of the award to which they would otherwise have been entitled pursuant to the Program terms. Please note that the Geographic Funding Minimums discussed in paragraph 2, below, will take precedence in the event funding must be pro-rated. ***Qualifying applications received after 11:59 p.m. on May 1, 2015 will be funded in the order of receipt.***

Please note that the source of MSRC Clean Transportation Funding™ for projects submitted in response to this solicitation is motor vehicle registration fees collected by the California Department of Motor Vehicles (DMV) in accordance with the California Health and Safety Code. Thus, the availability of MSRC Clean Transportation Funding™ is contingent upon the timely receipt of funds from the DMV. Neither the MSRC nor SCAQMD can guarantee the collection or remittance of registration fees by the DMV.

2. **Geographical Funding Minimum** - The MSRC has established a Geographical Funding Minimum for each county within the SCAQMD. The geographical funding minimum amount has been set at \$500,000 per county. This funding set-aside guarantees a minimum level of funding for each county to implement alternative fuel infrastructure projects. At the end of the application submittal period, July 29, 2016, if any county has funds remaining in its geographical minimum, these funds will be made available to qualifying projects from any other county in order of receipt.
3. **Eligible Applicants** – Most entities interested in implementing alternative fuel refueling station projects within the SCAQMD jurisdiction are welcome to participate in the Program. Eligible applicants include, but are not necessarily restricted to:
 - Infrastructure developers and alternative fuel providers;
 - Fleet operators, both public and private, including fleets participating in the SCAQMD Carl Moyer Program;
 - School districts seeking assistance for compressed natural gas refueling station development;
 - Project teaming by multiple stakeholders, such as real property owners working in partnership with infrastructure providers or fleet operators, joint powers authorities, limited liability partnerships, etc.,

are eligible to participate. The MSRC does require, however, that a single prime contractor and contract signatory be designated at the time of application submission. ***Please note: except as discussed under Compression Services Tariff below, the MSRC also requires the applicant to be the entity that will own the fueling equipment;***

4. **Eligible Alternative Fuels** – In order to tie MSRC funding to fuels that have the most commercially available vehicle and engine products, the following alternative fuels are allowable under this Program:
 - Compressed Natural Gas (CNG);
 - Renewable Biogas (methane);
 - Liquefied Natural Gas (LNG);
 - Liquefied/Compressed Natural Gas (L/CNG);
5. **Maximum Total Funding Per Entity** – To ensure broad-based participation, the MSRC has established the following maximum funding parameters:
 - The maximum total funding award to any public or private entity under this solicitation shall not exceed 20% of the total Available Funding. This maximum funding restriction can be waived by the MSRC in the event the MSRC does not receive meritorious Applications from other bidders that meet or exceed 80% of the total available funds, or if the MSRC allocates additional funds to the program. The MSRC reserves the right to determine which projects, if any, are deemed meritorious and warrant a Clean Transportation Funding™ award; and
 - The total of the MSRC funding award cannot exceed 50% of the Total Project Cost.
6. **Signage Requirements** – Publicly accessible refueling stations that receive an award must have motorist directional signage installed in proximity to the refueling station. This includes identification signs in immediate proximity to the refueling station and directional “trailblazer” signs on major streets and arterials in proximity to the refueling station. The installation of freeway signs is not required. The cost of sign procurement, permitting, and installation may be included as a station capital cost element.
7. **Federal Tax Credits** – Entities that sell, compress and/or dispense alternative fuels may be eligible for a Federal Tax Credit. To promote the use of alternative fuel, the MSRC believes it is appropriate that any Federal Tax credit ultimately reduce the price of fuel dispensed. Therefore, commercial entities seeking MSRC funding, whose primary business is the construction of refueling stations and/or sale of fuel, must disclose how potential Federal Tax Credits are accounted for when developing station cost construction cost estimates and fuel pricing. Please refer to Attachment G.
8. **Funding Restrictions** – MSRC funds cannot be used to fund the following project elements:
 - Alternative fuel refueling station maintenance or operations costs, including utility costs, or fuel purchase costs;
 - Purchase or lease of real property.
9. **Conflict of Interest** - Address possible conflicts of interest with other clients affected by actions performed by the firm on behalf of the MSRC. Although the applicant will not be automatically disqualified by reason

of work performed for such firms, the MSRC reserves the right to consider the nature and extent of such work in evaluating the application.

10. Certifications – All applicants must complete and submit the following Attachment H forms as an element of their Application (unless specifically exempted below):

- Internal Revenue Service Form W-9 – Request for Taxpayer Identification Number and Certification, and Franchise Tax Board Form 590 – Withholding Exemption Certificate. If you are selected for an award, you cannot be established as a vendor without this information.
- Campaign Contributions Disclosure. This information must be provided at the time of application in accordance with California law. You may be asked for an update when awards are considered.
- Disadvantaged Business Certification. The SCAQMD needs this information for their vendor database. IT WILL NOT BE CONSIDERED IN THE DETERMINATION OF YOUR MSRC AWARD. Governmental entities do not need to complete this form.

11. Earliest Date for an MSRC-Funded Project to Commence – The release date of this Program Announcement, May 1, 2015, is the earliest date work on a project can commence and be potentially eligible for MSRC Alternative Fuel Infrastructure Funding. Any expenditures made in anticipation of an award and prior to execution of a contract are solely at the proposer’s risk. If no contract is executed, neither the MSRC nor South Coast AQMD are liable for payment of any funds expended in anticipation of a contract. Please note that in the event a contract is executed, reimbursement for any costs incurred by the proposer in anticipation of the contract is at the discretion of the MSRC and SCAQMD.

12. Project Implementation Schedules - Applicants are expected to provide a realistic project implementation schedule as an element of their application. In order to ensure that MSRC funds are awarded to projects which are ready to proceed, the following requirements apply:

- All stations are expected to be operational within 24 months of contract execution. If a prospective applicant does not expect completion within this time frame, they should consider awaiting future funding opportunities.
- In the event an application is awarded MSRC funds, the project implementation schedule will become an element of the contract.
- Once a proposed contract is sent to the applicant for execution, the applicant must negotiate any requested changes and sign and return the contract within six months, or contract negotiations will terminate and the award will be returned to the Discretionary Fund.
- In the event a contractor is unable to meet project milestones and requires additional time, the MSRC reserves the right to administratively authorize a one-time extension to the period of performance, not to exceed an additional one (1) year. Beyond one year, additional extensions to the contract period of performance may only be granted if, at the discretion of the MSRC, there is adequate justification and the project would provide sufficiently large benefit to offset the delay.

13. Additional Conditions on MSRC Funding

- MSRC funds will be distributed on a reimbursement basis only upon completion of approved project tasks and submission of all required reports and invoices.

- Recipients of MSRC **Clean Transportation Funding™** must guarantee that projects implemented under this Program will remain operational and in the approved location for a period of no less than five (5) years from the date the project is fully implemented. For the purpose of refueling station construction, “fully implemented” is defined as the date the refueling station initiates fueling operations;
- Infrastructure projects funded under this Program Announcement are not eligible to receive additional funds under any other current MSRC Work Program solicitation;
- Infrastructure projects that received MSRC **Clean Transportation Funding™** under a previous award are not eligible to seek additional funding for the same project;
- MSRC funds are not intended to fund staff salaries or administrative costs. Reasonable project management costs necessary to implement infrastructure projects are allowable; however, the MSRC reserves the right to reduce or delete program management costs that appear excessive;
- All projects must include a media and community outreach component. Acceptable outreach strategies may include, but are not limited to, a Grand Opening/project kickoff event, press releases, or press conference to highlight the project’s accomplishments;
- Finally, in accordance with state law, all projects awarded MSRC **Clean Transportation Funding™** are subject to audit. It is highly recommended that bidders employ government acceptable standard accounting practices when administering their MSRC co-funded project.

SECTION 3 – PROJECT ELIGIBILITY AND INCENTIVE LEVELS

Project Eligibility - The MSRC Alternative Fuel Infrastructure Program offers incentives for a range of infrastructure types, including fast-fill stations, slow or time-fill stations, and limited-fill refueling apparatus. The expansion of existing operational stations to accommodate growing throughput needs is also eligible, **except** that commercial entities whose business is the construction, operation, maintenance, or sale of fuel are not eligible to seek funding for the expansion of their own stations, as these entities have an economic interest in keeping their own stations in an operable condition with sufficient throughput capacity.

Projects must use new refueling station components - The relocation of existing alternative fuel refueling stations, or the reuse of components or equipment from existing stations, is prohibited. Furthermore, exclusively private-access stations are not eligible for funding under this Program Announcement—see Limited Access definition, below. Applications must identify at least one anchor fleet to use the station, and indicate the base number of vehicles committed to fuel at the station and/or the base throughput from that fleet. Applications for station upgrades must provide documentation that the proposed project will result in increased station utilization and increased alternative fuel throughput.

Maximum Incentive Levels – The maximum “per facility” incentive awards under the MSRC’s Alternative Fuel Infrastructure Program are shown in Table 3-1. In no case shall the MSRC funding award exceed 50% of the combined cost of the facility capital equipment, site construction, signage, and reasonable project management costs. The incentive levels also vary as a function of the type of refueling infrastructure proposed and type of entity requesting funding assistance. The following funding maximums apply for new and expansion refueling station projects and fleet vehicle maintenance facility modification projects:

Table 3-1: Maximum “Per Facility” MSRC Funding Levels

Entity	Fuels	Limited Access	Full Access	Maintenance Facility Modifications
Private	Single Fuel	\$100,000	\$150,000	\$75,000
	L/CNG	\$150,000	\$200,000	\$75,000
Public	Single Fuel	\$175,000	\$225,000	\$75,000
	L/CNG	\$225,000	\$275,000	\$75,000

For purposes of this Program Announcement, the following definitions apply:

- **Private Entity** – An applicant which is not a Public Entity as defined below.
- **Public Entity** – A government agency of any level, including but not limited to: municipal, county, State, Federal, special districts, and school districts.
- **Full Access** – A “Full Access” station is:
 - Open 24 hours per day, 7 days per week to any user;
 - Equipped with a universal card reader system which accepts Visa, MasterCard, and/or American Express, at a minimum; and
 - Has capacity to dispense at least 3 gasoline gallon equivalents (GGE) per minute.
- **Limited Access** – A Limited Access station does not meet one or more of the Full Public Access criteria above. However, the station owner must attest to their willingness to make arrangements for at least one other fleet to use the station, if approached by an interested fleet. The “other fleet” must be a separate legal entity from the station owner. The owner of a Limited Access station may place reasonable restrictions on the “other fleet’s” hours of access, etc.
- **L/CNG** – Station offers both CNG and LNG fuels.
- **Maintenance Facility Modifications** - In addition to refueling stations, MSRC Clean Transportation Funding™ is available for the modification of existing facilities used for vehicle maintenance and repair. Allowable facility modifications include, but are not necessarily limited to, the following:
 - Installation of building methane detection sensors;
 - Electrical shielding;
 - Heater element explosion proofing;
 - Gas evacuation and ventilation upgrades.

MSRC Clean Transportation Funding™ levels for maintenance facility modifications are capped at a maximum of 50% of the project costs, not to exceed a maximum of \$75,000 per facility.

- **Compression Services Tariff** - The Southern California Gas Company Compression Services Tariff (CST) is an optional utility service offered to non-residential SoCalGas customers that allows SoCalGas to procure, construct, own, operate and maintain compression equipment on customer premises. SoCalGas customers taking service under CST can be eligible to receive a funding incentive on the

compression equipment, in an amount not to exceed 25% of the CST pricing and not to exceed five years' duration. CNG fueling dispensers (not integrated with a gas compressor/skid package), card readers, and other retailing/dispensing equipment which will be owned by applicant can still receive an incentive up to 50% of the combined cost of the capital equipment, site construction, signage, and reasonable project management costs.

Project applications that do not reasonably fit within the Eligible Project Categories outlined above will not be approved and will not be eligible to receive MSRC Clean Transportation Funding™. The MSRC retains sole discretion when determining project eligibility.

SECTION 4 - SCHEDULE OF EVENTS

The Alternative Fuel Infrastructure Program will be conducted in accordance with the timeline shown in Table 4-1, below. Project applications may be submitted at any time during the period commencing May 1, 2015 and ending July 29, 2016. *Please note that applications must be received no later than 11:59 p.m. on July 29, 2016. All applications must be submitted electronically through the MSRC Clean Transportation Funding Website. Late applications will not be evaluated and will not be eligible for MSRC funding.*

Table 4-1 - Key Alternative Fuel Infrastructure Program Dates

Program Event	Date
Program Announcement Release	May 1, 2015
Application Submittal Period	May 1, 2015 – July 29, 2016
Latest Date/Time for Application Submittal	July 29, 2016 @ 11:59 p.m.
Application Evaluation & Award Consideration	First-come, first-served (geographic funding minimums apply)

SECTION 5 - APPLICATION PREPARATION & ELECTRONIC SUBMITTAL INSTRUCTIONS

A Project Application must be completed and electronically submitted under this Program. As stated in the Introduction, only applications deemed complete will be evaluated and considered for a funding award. Applications must be prepared and submitted in accordance with the instructions outlined below.

1. **Application Preparation** – The following information must be included in all Applications seeking MSRC Clean Transportation Funding™ under the Alternative Fuel Infrastructure Program:
 - a) **Cover letter** - Transmittal of the Application must be accompanied by a cover letter. The letter should also provide the name, telephone and fax numbers, and e-mail address of the contact person(s) for technical and contractual matters, and be signed by the person(s) authorized to contractually bind the applying entity.

For joint Applications, the Proposer must include a statement confirming authorization to act on behalf of the other co-Proposers. The Proposer must include a letter of support, including contact name and telephone/fax number, from all proposing entities of a joint Application.

- b) **Attachments A-H** - Applications must include the following completed Attachments, including all required supporting documentation as requested. Application Templates and Instructions are included in Section 8 of this Request for Proposals; see page 13:
- Attachment A: Proposer Information
 - Attachment B: Project Description & Technical Specifications
 - Attachment C: Project Cost Breakdown
 - Attachment D: Project Implementation Schedule
 - Attachment E: Memorandum of Understanding/Memorandum of Agreement
 - Attachment F: Utilization Estimates/Letters of Commitment
 - Attachment G: Federal Tax Credit Accounting
 - Attachment H: Certifications (W-9, 590, DBE, Campaign Contribution Disclosure)

2. Electronic application submittal process

In an effort to reduce the need to photocopy, package, and physically submit paper applications, the 2013 Alternative Fuel Infrastructure Program requires that applications be submitted electronically in PDF format using the MSRC Website. We believe this benefits the applicant, the MSRC staff, and the environment. As the online submittal process is a “new way of doing business” for both the MSRC and the project applicant, a tutorial has been developed to walk applicants step by step through the electronic application submittal process.

The application that will be submitted as a **PDF document** is comprised of Nine (9) primary sections – these correspond to the Cover Letter and application Attachments A-H as described in the preceding section.

Thus, a complete application will be comprised of the following nine elements:

1. Signed Cover Letter;
2. Attachment A: Proposer Information
3. Attachment B: Project Description & Technical Specifications
4. Attachment C: Project Cost Breakdown
5. Attachment D: Project Implementation Schedule
6. Attachment E: Memorandum of Understanding/Memorandum of Agreement
7. Attachment F: Utilization Estimates/Letters of Commitment
8. Attachment G: Federal Tax Credit Accounting
9. Attachment H: Certifications
 - a. W-9 Form

- b. Form 590
- c. Disadvantaged Business Certification Form
- d. Campaign Contribution Disclosure Form

These nine sections, including Attachment H certifications, are to be compiled into a **single PDF document** for submittal to the MSRC Clean Transportation Funding Website. **Please note that ONLY PDF format can be accepted. Microsoft Word documents cannot be accepted by the MSRC Website.** Applicants will need to register on the MSRC Clean Transportation Funding website.

The application submittal tutorial is available at

www.cleantransportationfunding.org/proposal_process/upload_proposal.

Please note that the latest date and time to submit an application is July 29, 2016 at 11:59 pm!

- 3. **Addenda** – The Mobile Source Air Pollution Reduction Review Committee may modify the Program Announcement and/or issue supplementary information or guidelines relating to the Program Announcement during the Application preparation and acceptance period of May 1, 2015 to July 29, 2016. Amendments will be posted on the MSRC website at www.CleanTransportationFunding.org.
- 4. **Application Modifications** - Once submitted, Applications cannot be altered without the prior written consent of the Mobile Source Air Pollution Reduction Review Committee.
- 5. **Certificates of Insurance** - Proposers are required to provide a statement that upon notification of award, a certificate(s) of insurance naming the SCAQMD as an additional insured will be provided within forty-five (45) days. Entities that are self-insured are required to provide a statement to that effect in their application.

SECTION 6 - IF YOU NEED HELP...

This Program Announcement can be obtained by accessing the MSRC web site at www.CleanTransportationFunding.org. MSRC staff members are available to answer questions during the Application acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For **General and Administrative Assistance**, please contact:
Cynthia Ravenstein
MSRC Contracts Administrator
Phone: 909-396-3269
E-mail: Cynthia@cleantransportationfunding.org
- For **Technical Assistance**, please contact:
Ray Gorski
MSRC Technical Advisor
Phone: 909-396-2479
E-mail: Ray@cleantransportationfunding.org

- For **Contractual Assistance**, please contact:

Dean Hughbanks

SCAQMD Procurement Manager

Phone: 909-396-2808

E-mail: dhughbanks@aqmd.gov

SECTION 7- APPLICATION EVALUATION AND APPROVAL PROCESS

Applications will be evaluated as they are received to determine compliance with all mandatory requirements. Applications that do not comply with the stipulated requirements will be returned to the project applicant for revision and resubmission. Any returned applications will lose their original submittal date and, if resubmitted, will be issued a new date upon receipt by the MSRC for purposes of disbursing funds on a first-come, first-served basis.

If an application is for a Public Works project as defined by State of California Labor Code Section 1720, Applicant may be required to include Contractor Registration Number in Attachment A. Application will be deemed as non-responsive and applicant may be disqualified if Contractor Registration Number is not included in Attachment A, as applicable. Applicant is alerted to changes to California Prevailing Wage compliance requirements as defined in Senate Bill 854 (Stat. 2014, Chapter 28).

Applications deemed compliant will be forwarded to the MSRC Technical Advisory Committee (MSRC-TAC) for review and concurrence with staff's recommendation. Applications recommended for approval by the MSRC-TAC will be forwarded to the MSRC for approval (applicants may be asked to provide an updated Campaign Contributions Disclosure form at this time). Applications recommended for funding by the MSRC will be forwarded to the SCAQMD Governing Board for final approval.

Upon receipt of Governing Board approval, the MSRC staff will prepare a contract for execution by the applicant. The time period from SCAQMD Governing Board approval to contract execution is anticipated to be approximately one hundred twenty (120) days.

SECTION 8 - PROPOSAL ATTACHMENTS – PA2015-12

Attachment A: PROPOSAL SUMMARY INFORMATION

A. Please provide the following Proposer information in the space provided:

Business Name	
Division of:	
Subsidiary of:	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____
Contractor Registration Number (required for Public Works projects)	

Address			
City/Town			
State/Province		Zip	
Phone	() - Ext	Fax	() -
Contact		Title	
E-mail Address			
Payment Name if Different			

B. Funding Request Summary:

MSRC Clean Transportation Funding™ Requested: \$ _____

Existing or Anticipated SCAQMD Funding Applied to Project: \$ _____

Other Co-Funding Applied to Project: \$ _____

Total Project Cost: \$ _____

Attachment B: PROJECT DESCRIPTION & TECHNICAL SPECIFICATIONS

Please provide the following information regarding the proposed alternative fuel refueling facility:

1. Proposed Location – Please provide the street address of the proposed facility:
2. Project Type (please check the appropriate box(s)):
 - New Station
 - Expansion of Existing, Operational Station
 - Modification of Existing Vehicle Maintenance Facility
3. The proposed new/upgraded refueling station will be (please check the appropriate box):
 - Full Public Access (open to any user 24 hours per day, 7 days per week; equipped with universal card reader, and minimum dispensing capacity of 3 GGE per minute)
 - Limited Access (does not meet criteria of Full Public Access. Applicant attests their willingness to make the station available to at least one other fleet)
4. Fuel Type(s) – please check the appropriate box specifying the alternative fuel(s) proposed for the station:
 - CNG
 - LNG
 - L/CNG
5. Site Owner – Owner of the real property upon which the station will be constructed:
6. Station Operator – Entity that will operate and maintain the refueling facility:
7. Infrastructure Vendor/Installation Contractor – Name of equipment vendor(s) and installation contractor(s), if known:
8. Fuel Provider – Name of fuel vendor:
9. Refueling Infrastructure Description/Technical Specification. Please respond to a. or b. below, as appropriate:
 - a. New Refueling Facility - Description must include, at a minimum:
 - i. Site plan illustrating the proposed station's location on the property, including at a minimum the adjacent streets, entrance and exit locations, locations of dispenser islands, canopies, fuel storage tanks, compressors, walls and/or spill containment areas as appropriate;
 - ii. Technical Specification, including a complete listing of all station equipment, hardware, and components, including component manufacturer and model number if known. In addition, the specification must provide minimum fuel storage capacities, compression and dispenser ratings, as well as number, make, and model of dispensers and card readers, etc. if known;

- iii. Description of other project elements, including site amenities such as private access/public access islands, card reader payment options, overhead canopies, signage, traffic circulation plan, landscaping, fencing, security lighting, etc.
- b. Expansion of Existing Refueling Facility – description must include, at a minimum:
- i. a description of the site location, existing fuel type and storage capacity, number of existing fuel dispensers, level of accessibility (private access, limited fleet access, etc.), current station utilization, including average monthly fuel throughput, numbers and types of vehicles that typically utilize station, etc.
 - ii. Please discuss the proposed station expansion and/or upgrades: Provide a detailed description of the proposed upgrade and/or expansion project. Include a technical description of the station in its modified or expanded configuration. Discuss, at a minimum, how the proposed upgrades/expansion will impact the station’s ability to remain operational and accessible, the strategic importance of the expanded and/or upgraded station, and the number, types, and sizes of vehicles the station will accommodate in its expanded and/or upgraded configuration.
 - iii. Please describe the funding requirements for implementing the proposed refueling station expansion and/or upgrades, including the need for MSRC funding assistance: Discuss co-funding commitments offered by the Proposer or other station stakeholders. Describe other funding sources currently being pursued to support station upgrades/expansion. Discuss any unique financial constraints that impact the Proposer’s ability to perform station upgrades and/or expansion.
- c. Maintenance Facility Modifications – Please provide a technical description of the proposed facility modifications, including the facility location, a detailed description of the facility and its use, a detailed listing of equipment, hardware, and components to be procured, including equipment vendor and model if known. In addition, please provide the number and types of vehicles the facility will accommodate in its modified configuration.

Attachment C: COST BREAKDOWN: Please provide a detailed cost breakdown of the proposed project. Please note that MSRC Clean Transportation Funding™ is intended to help offset the cost of station capital equipment, site construction, signage, and reasonable project management costs, and cannot be applied to real property purchases, operations and maintenance costs, or labor and administrative costs deemed excessive. The MSRC reserves the right to exclude cost elements deemed unallowable, as well as award funding in an amount less than the requested amount.

Site Improvements, including fencing, driveways, curbing, landscaping, lighting, other construction, etc. Please itemize site improvement costs below:	
	\$
	\$
	\$
	\$
Refueling Station Capital Equipment	
Compressors	\$
Dryers	\$
Storage Vessels	\$
Dispensers	\$
Card Readers	\$
Signage (mandatory – see Section 2 paragraph 5)	\$
Other (Canopy, etc. Please specify)	\$
Shipping & Delivery Charges	\$
Installation	\$
Taxes	\$
Project Management	\$
Facility Modifications to Existing Maintenance Facilities	
	\$
	\$
	\$
Total Project Cost Estimate	\$
MSRC FUNDING REQUEST	\$

Please note that the total of the MSRC funding award cannot exceed 50% of the Total Project Cost up to the maximum funding levels shown in Table 3-1.

Attachment E: MEMORANDUM OF UNDERSTANDING BETWEEN CONTRACTOR AND HOST SITE

For projects seeking MSRC **Clean Transportation Funding™** for construction of alternative fuel refueling stations, a fully executed Memorandum of Understanding (MOU) or Memorandum of Agreement (MOA) must be submitted as an element of the application package. **Please note that an MOU/MOA is NOT REQUIRED if the project applicant is the Site or Facility Owner.**

The MOU/MOA must be provided at the time of Application submittal and must contain the following essential elements, at a minimum:

- The parties to the MOU/MOA, including the fuel provider and/or facility developer and the site owner;
- The term of the MOU/MOA;
- The specific location of the refueling station to be constructed;
- Anticipated date of infrastructure construction;
- Anticipated date of infrastructure completion and start of operation;
- Executed signatures by individuals authorized on behalf of the parties to the MOU/MOA.

Attachment F: STATION UTILIZATION ESTIMATES

Applicants are required to demonstrate that the proposed station will have an adequate usage level to ensure the station remains operational for the required five-year period, as follows:

- Identify at least one anchor fleet which has committed to use the station on a regular basis. Please provide contact information for the anchor fleet. Please note that MSRC members or staff may contact any and all references provided in relation to station utilization commitment.
- Provide an estimate of the estimated annual station fuel throughput, and/or describe the number and types of alternative fuel vehicles expected to utilize the station immediately upon completion.
- Please attach letters of commitment between the applicant and fleets or other station users that commit to use the alternative fuel station for vehicle refueling.

Please be aware that any contract resulting from an award of MSRC **Clean Transportation Funding™** will include fuel throughput obligations, based on the estimates in the application, as an enforceable element of the contract. Therefore, it is strongly recommended that Proposers present station utilization estimates that are as accurate as possible and based on firm station utilization commitments!

Attachment G: FEDERAL TAX CREDIT ACCOUNTING

Please note that this Attachment only pertains to commercial business entities. Public agencies are not required to complete Attachment G.

The MSRC is aware that Federal Tax Credits may be available to help defray the cost of CNG and LNG station construction and fuel purchase. It is important to the MSRC that stations funded using public money demonstrate that the benefits of these funds are enjoyed broadly, especially as it pertains to the price of alternative fuel paid by the end user.

Thus, in the event that the tax credits are extended, the MSRC requires that prior to any award of **Clean Transportation Funding™** to commercial business applicants whose primary business is the construction of refueling stations and/or sale of alternative fuel, the applicant must disclose in writing if they:

- a) Are or are not eligible to receive Federal Tax Credit(s), and if they are;
- b) How the Tax Credit(s) is factored into the cost of station construction and the pricing of alternative fuel dispensed at the proposed refueling station.

This discussion should be labeled “Attachment G” and be included in the Application package at the time of submittal. Please note that Applications submitted by affected entities that fail to include Attachment G will be deemed incomplete and returned for corrective action.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ²
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ²
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ¹
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

YEAR _____

CALIFORNIA FORM

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name _____

Payee

Name _____

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.) _____

City (If you have a foreign address, see instructions.) _____

State _____

ZIP Code _____

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

- Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States

TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos

TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla

DISADVANTAGED BUSINESS CERTIFICATION

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

Statements of certification:

As a prime contractor to the SCAQMD, _____ (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:

Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise |
| <input type="checkbox"/> Local business | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise | |

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____

State of California Public Works Contractor Registration No. _____ MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT, AS APPLICABLE.

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

_____	_____
A. NAME	TITLE
_____	_____
B. TELEPHONE NUMBER	DATE

Definitions

Disabled Veteran-Owned Business Enterprise means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

Joint Venture means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

Local Business means a business that meets all of the following criteria:

- has an ongoing business within the boundary of the SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

Minority-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

"Minority" person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

Small Business Enterprise means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

Small Business Joint Venture means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

Women-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.



CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before the SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website (www.aqmd.gov). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

SECTION I.

Contractor (Legal Name): _____

<input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____

List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
(See definition below).

SECTION II.

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

Yes No **If YES, complete Section II below and then sign and date the form.
If NO, sign and date below. Include this form with your submittal.**

Campaign Contributions Disclosure, *continued*:

Name of Contributor _____

_____ Governing Board Member or MSRC Member/Alternate Amount of Contribution Date of Contribution

Name of Contributor _____

_____ Governing Board Member or MSRC Member/Alternate Amount of Contribution Date of Contribution

Name of Contributor _____

_____ Governing Board Member or MSRC Member/Alternate Amount of Contribution Date of Contribution

Name of Contributor _____

_____ Governing Board Member or MSRC Member/Alternate Amount of Contribution Date of Contribution

I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary.** A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.
- (2) Otherwise related business entity.** Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:
 - (A) One business entity has a controlling ownership interest in the other business entity.**
 - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:**
 - (i) The same person or substantially the same person owns and manages the two entities;**
 - (ii) There are common or commingled funds or assets;**
 - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;**
 - (iv) There is otherwise a regular and close working relationship between the entities; or**
 - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.**



MAJOR EVENT CENTER TRANSPORTATION PROGRAMS

*“Air Quality Improvements through Automobile Trip
Reduction & Roadway Congestion Mitigation”*

**Funding for the Implementation of New or Expanded Public
Transportation Programs for Event Center Destinations
Located in the South Coast Air Quality Management District**

2015-2016 Edition

Program Announcement

PA2015-13

May 1, 2015

SECTION 1 - INTRODUCTION

There are dozens of Major Event Centers located within the South Coast Air Quality Management District jurisdiction – these include sports arenas, fairgrounds, stadiums, race tracks, speedways, Convention Centers, etc. Compared to other destination centers such as shopping malls, event centers are utilized on a less frequent, and more importantly, less consistent basis. In the case of sports venues, the arena or stadium is used frequently during the regular season, but sits relatively idle during the offseason.

However, when a ball game, NASCAR race, or other high profile, high attendance event is scheduled at a major event center, the impacts on surrounding communities are usually much more disruptive as compared to other destination centers. As drivers, we have all experienced the traffic impacts created prior to and following an event at a major venue. Surface streets surrounding the event center are impacted by traffic volumes that greatly exceed capacity, freeways are impacted at off-ramps, and vehicle queues extend at signalized intersections to the point where gridlock ensues.

While we understand and even anticipate the extreme traffic congestion that accompanies special events, we often forget that gridlock also has a significant impact on air quality. Vehicles that inch along in stop and go traffic or idle for extended periods burn excessive amounts of fuel and emit excessive levels of air pollutants. The impacts extend well beyond the vehicles that actually attend the event center – traffic impacts can extend for many miles surrounding the event center and impact streets, major arterials, and freeways.

An effective strategy to reduce traffic congestion and its associated air quality impacts, not to mention driver frustration and stress, is to utilize public transportation in lieu of driving to the event. Given these benefits, many newer event centers are located adjacent to regularly scheduled bus, shuttle, or rail service. Event center patrons who take advantage of public transportation are typically spared the aggravation associated with event center parking lot congestion, avoid excessive parking fees and, whether they realize it or not, are doing something beneficial for the environment by *not* driving their car.

The MSRC, however, is aware that not all major event centers within the South Coast AQMD jurisdiction are served by regularly scheduled transit service, particularly older venues. In some cases, the regularly scheduled service that is provided does not match the spike in demand that occurs before and particularly after an event, and therefore requires schedules and service levels to be adjusted to meet the event schedule.

The purpose of this Program Announcement is to identify opportunities to reduce automobile trips, traffic congestion, and their associated air pollutant emissions by shifting attendees of major event center functions out of their personal automobile and onto public transportation. The goal is to align major event centers with transit providers to create a transportation option for event attendees as an alternative to their personal automobile. A shift from automobile to transit benefits not only those who take advantage of the service, but also the communities where the event center is located. The air pollution reduction benefits achieved through automobile trip reduction and congestion relief benefit all residents of the South Coast AQMD.

To facilitate implementation of new or expanded public transportation programs that facilitate use of transportation services to major event centers, the Mobile Source Air Pollution Reduction Review Committee (MSRC) has allocated a total of \$4.5M in **Clean Transportation Funding™**. This funding opportunity has at its core the following goals and objectives:

- Seek out major event center venues located within the South Coast AQMD jurisdiction that experience high levels of traffic congestion during scheduled events and are not served by, or are insufficiently served by, regular public transit services;
- Partner with transit providers and event center venues to develop and implement new or expanded programs to attract patrons to transit services that are tailored to each venue's scheduled events;
- Encourage transit providers and event center venues to establish ongoing relationships to continue event-specific transit service beyond the MSRC funding period, including the identification of funding sources in addition to the MSRC to support future transportation services.

The MSRC has offered funding for implementation of Event Center Transportation programs for the past four years. This Event Center Transportation Program funding opportunity spans *two fiscal years* – FY 2015 and FY 2016. This is intended to provide additional flexibility in the development and implementation of event center transportation projects. For example, it is acceptable to propose event center transportation projects that are deployed in multiple phases, such as two or more seasons associated with a major league sporting venue. Also, because the application acceptance period has been extended, additional time is available for qualifying venues and transportation providers to form partnerships.

In addition, to reduce the need to photocopy, package, and physically submit paper applications, the FY 2015-'16 Edition of the Major Event Center Transportation Program **requires that applications be submitted electronically in PDF format using the MSRC Website**. We believe this benefits the applicant, the MSRC staff, and the environment. As the online submittal process is a "new way of doing business" for both the MSRC and event center transportation program applicants, a tutorial has been developed to walk applicants step by step through the electronic application submittal process. This tutorial is available on the MSRC Website at www.cleantransportationfunding.org. Look for the Proposal Upload Tutorial on the right-hand column of the Home Page.

While many of the features of the previous programs are retained in this funding opportunity, two major changes should be noted.

- ☆ All bus and shuttle vehicles performing Event Center transportation services under this Program must be equipped with an engine that is certified at - *or cleaner than* – the EPA 2010 emissions standards and certified as such by the California Air Resources Board. All fuels and technologies certified to the 2010 Emissions Standards are acceptable.
- ☆ For projects that propose expanded rail service, the MSRC has a preference that Tier 4 locomotives be used if available. The lowest Tier locomotive acceptable for use under this Program is Tier 2.

The following Sections describe the eligibility requirements to participate in the MSRC Major Event Center Transportation Services Program, limits on the amount of **Clean Transportation Funding™** available to Program participants, and guidelines for proposal preparation. It is important to recognize that the MSRC must ensure that the use of Clean Transportation funds will result in direct, tangible, and quantifiable air quality benefits. To this end, this Program Announcement stipulates specific performance thresholds and participation obligations that must be met in order to be deemed eligible for an MSRC funding award. Projects submitted for funding consideration will be scrutinized to ensure they meet the minimum eligibility

requirements described herein. It is likely that some event center transportation proposals will be deemed ineligible or offer insufficient benefits and will not receive an MSRC funding award.

MSRC staff members are available to answer questions and provide technical and programmatic guidance as appropriate. Please refer to Section 6 of this document for a list of MSRC Staff contacts.

Available Funding - The amount of FY 2015-'16 MSRC **Clean Transportation Funding™** allocated for the Major Event Center Transportation Program is \$4.5M. This funding level is a targeted amount – should meritorious projects be received totaling greater than \$4.5M, the MSRC reserves the right to increase the amount of total funding available.

Also, should the MSRC receive proposals with total requests less than the amount allocated, or if proposals are deemed non-meritorious, the MSRC reserves the right to reduce the total funding available and reallocate funds to other Work Program categories. The MSRC also reserves the right to not fund any of the proposals received, irrespective of the merits of the proposals submitted.

Please note that the source of MSRC **Clean Transportation Funding™** for projects submitted in response to this solicitation is motor vehicle registration fees collected by the California Department of Motor Vehicles (DMV) in accordance with the California Health and Safety Code. Thus, the availability of MSRC **Clean Transportation Funding™** is contingent upon the timely receipt of funds from the DMV. Neither the MSRC nor South Coast AQMD can guarantee the collection or remittance of registration fees by the DMV.

SECTION 2 – ELIGIBILITY REQUIREMENTS

This Program Announcement seeks to facilitate the reduction of automobile trips and mitigate traffic congestion by shifting event attendees out of their personal automobile and onto public transportation at major event centers that are not currently served by regularly scheduled transit or shuttle service prior to, during, and following the venue's events.

For the purpose of this Program Announcement, the following eligibility requirements apply:

- **Major Event Center** – a Major Event Center is defined as a publicly or privately-owned, publicly accessible venue located within the geographical jurisdiction of the South Coast Air Quality Management District that possesses the following attributes, at a minimum:
 - Occupancy capacity of at least 5,000 people;
 - Average event attendance of at least 2,000 people;
 - Dedicated parking lot or structure co-located with the event center.
- **Traffic Impacted Event** – A scheduled event held at a Major Event Center that results in recurrent traffic congestion prior to, during, or after the scheduled event whose impact on surrounding roadways, arterials, intersections, or freeways exceeds design capacity;

Only event centers that are Traffic Impacted are eligible to participate in this Program!

- **Transportation Provider** – includes but is not necessarily limited to a) public transit agencies, including regional and municipal transit agencies and authorities; b) private transit operators, including

subcontractor service providers to public transit agencies; and c) paratransit providers and other licensed, private transportation and shuttle providers;

- **Qualifying Transportation Vehicles** – vehicles proposed for use in Event Center Transportation Services must conform to the following minimum requirements:

Bus and Shuttle Vehicles:

- All bus and shuttle vehicles performing Event Center transportation services under this Program must be equipped with an engine that is certified at - *or cleaner than* – the EPA 2010 emissions standards and certified as such by the California Air Resources Board. All fuels and technologies certified to the 2010 Emissions Standards are acceptable¹;
- Vehicle Seating Capacity – vehicles must have a minimum seated position capacity of twenty-two (22) occupants;
- Vehicles must meet all Americans with Disabilities Act (ADA), US Department of Transportation (DOT), California Department of Motor Vehicles (DMV), and other applicable regulatory agency requirements.

Rail Service:

- Cleanest Locomotives Available – for projects that propose expanded rail service, the MSRC has a preference that Tier 4 locomotives be used if available. The lowest Tier locomotive acceptable for use under this Program is Tier 2.
- **Transportation Deficient** – the Event Center must be Transportation Deficient. This is defined as an Event Center that is not served by regularly scheduled public transit or private shuttle service sufficient to entice patrons to attend the event using public transit rather than private automobile, or is served by public and/or private transportation services that are operating at maximum capacity. **Please note that this Program Announcement is NOT intended to subsidize ongoing public or private transportation services.**

The MSRC seeks the formation of *partnerships* between traffic-impacted, transit-deficient major event centers and transportation providers who operate qualifying vehicles. The following Sections define who is eligible to submit a proposal to the MSRC, who is eligible to enter in to a contract for event center transportation services, and what transportation costs are eligible for reimbursement by the MSRC:

- **Who can submit a proposal in response to this Program Announcement?** Either a qualifying major event center and/or a qualifying transportation provider may respond to this Program Announcement and submit a proposal for MSRC consideration. Proposals may also be submitted from a joint event center/transportation provider partnership. Please note that the following conditions apply:
 - A proposal submitted by qualifying Major Event Centers must identify what Transportation Provider(s) will provide the event center service. The proposal must include a Memorandum of Understanding (MOU) between the event center and transportation provider(s) stating their

¹ 2010 emission standards require NOx emissions less than or equal to 0.2 g/bhp-hr and particulate matter emissions less than or equal to 0.01 g/bhp-hr.

mutual intent to implement and operate event center transit service in accordance with Program requirements in the event the MSRC provides a funding award;

- A proposal submitted by a qualifying Transportation Provider must identify which Major Event Center(s) will be served in the Program. The proposal must include a MOU or letter of support between the transportation provider and event center(s) stating their mutual intent to implement and operate event center transit service in accordance with Program requirements in the event the MSRC provides a funding award;
 - A proposal submitted jointly by an event Center in partnership with a transportation provider must also include a MOU, as above.
- ***Who is eligible to receive an award of MSRC Clean Transportation Funding™ under this Program Announcement?*** While either a major event center or qualifying transportation provider are eligible to submit a proposal, **only the qualifying transportation provider is eligible to enter into a contract on behalf of the proposed event center transportation service partnership.** The rationale for this restriction is that *only transportation service costs (including transit program and traffic control costs) are eligible for reimbursement under this Program.* Thus, it makes sense that the service provider who incurs direct expenses in providing transportation services be the party to the contract that provides reimbursement. Please note that the MSRC does not enter into three-party agreements.

In summary, major event centers that meet the above eligibility requirements and transportation providers that meet qualifying requirements are eligible to participate in this MSRC Program. Both Event Centers and Transportation Providers are eligible to submit a proposal; however, each party must be identified by name in the proposal, accompanied by a MOU between the named participants. Only the transportation provider can be the MSRC funding recipient and contract signatory.

SECTION 3 - PARTICIPATION GUIDELINES, CONDITIONS & RESTRICTIONS

The following guidelines, requirements, and conditions have been established and apply to all Proposals:

1. **Program Scope** – The primary objective of this Program is to eliminate automobile trips, reduce automobile vehicle miles traveled (VMT), and reduce traffic congestion in the vicinity of a major event center prior to, during, and following an event, resulting in a reduction in air pollutant emissions. Automobile trip reduction and traffic congestion mitigation are achieved by shifting the travel mode of event attendees from their personal automobile and onto new or expanded public transportation service or dedicated shuttle event center feeder service. To facilitate this mode shift, the MSRC will consider proposals for event center transportation services. MSRC **Clean Transportation Funding™** is available to co-fund the cost of implementing new or expanded transportation programs. Only direct costs of transportation programs are eligible for reimbursement under this Program. Proposals submitted in response to this Program Announcement must include as named participants the major event center where new or expanded transit or shuttle service will be operated as well as the transportation provider who will implement the event center transportation program.

2. **Maximum MSRC Funding Limits**– To ensure broad-based participation, the MSRC has established the following maximum funding parameters:
 - a. The maximum total funding award to any entity that provides event center transportation programs under this solicitation shall not exceed 50% of the total Available Funding. The total available funding currently allocated by the MSRC for this Program is \$4.5M. Thus, the maximum total funding award for any single transportation service provider is currently set at \$2.25M. This maximum funding restriction can be waived by the MSRC in the event the MSRC does not receive meritorious proposals from other bidders that meet or exceed 50% of the total available funds, or if the MSRC allocates additional funds to the Program. The MSRC reserves the right to determine which projects, if any, are deemed meritorious and warrant a **Clean Transportation Funding™** award; and
 - b. The maximum funding allocated for transportation programs for any single major event center shall not exceed 30% of the total available funding. Thus, the maximum MSRC funding amount that can be applied to implementing transportation programs at any one event center is currently limited to a maximum of \$1,350,000, subject to the MSRC discretionary provisions cited above.
3. **Geographical Funding Minimum** - The MSRC has established a Geographical Funding Minimum for each county within the SCAQMD. The geographical funding minimum amount has been set at \$250,000 per county. This funding set-aside guarantees a minimum level of funding for each county to implement Event Center Transportation projects. At the end of the application submittal period, July 29, 2016, if any county has funds remaining in its geographical minimum, these funds will be made available to qualifying projects from any other county in order of receipt.
4. **Eligible Uses of MSRC Funds** – MSRC funds may be used to offset direct operating costs associated with event center transportation programs. These include transportation operations and traffic control costs as defined below:
 - **Transportation Operations** – Direct costs associated with operations of event center transportation vehicle and/or rail operations subject to the requirements and conditions outlined in Section 2, Eligibility Requirements;
 - **Event Center Traffic Control/Bus Priority** – Costs associated with providing traffic control to provide participating transportation vehicles event center ingress and egress priority may also be proposed as project co-funding. This includes, but is not necessarily limited to: special lane designation for transit vehicles, including cones, lane striping, etc.; traffic control personnel to direct traffic and grant participating vehicles faster entry and exit; designation of areas for drop off and pickup of event center patrons who utilize the transportation service, including directional signage, markings and placards, etc.
5. **Transportation Programs Advertising, Outreach, Marketing, and Promotion** – All event center transportation programs projects that receive an MSRC **Clean Transportation Funding™** award must include advertising and promotion of the availability of the service as a project element. ***This is a mandatory component of any MSRC-funded event center transportation programs project.*** Advertising and promotion may include, but is not limited to:
 - a) Radio, television, newspaper, or specialty publication advertisements;

- b) Print materials;
 - c) Materials developed for incorporation into a website, electronic media, etc.;
 - d) Transportation program kickoff events, ribbon cuttings, or news conferences, etc.
6. **Program Co-Funding Requirements** – Program participants, including the event center owner(s), transportation providers, and other potential project stakeholders, are required to match MSRC **Clean Transportation Funding™** awarded with **cash or in-kind co-funding in an amount equal to or greater than the MSRC funding award amount**. Co-funding may include, but is not necessarily limited to, the following:
- **Direct Cost Share** – Cash, direct labor, and equipment use contributions from the transportation provider may be accounted for as co-funding;
 - **Fare box Revenue** – Fare box revenue collected to augment MSRC-funded transportation program may be documented and applied as co-funding;
 - **Transportation Programs Outreach, Marketing, and Promotion** – Costs associated with advertising the availability of event center transportation programs may be applied as co-funding. Appropriate outreach may include, but is not limited to, radio, television, newspaper, or specialty publication advertisements, printed materials, materials developed for incorporation into a website, electronic media, transportation program kickoff events, ribbon cuttings, or news conferences, etc.
 - **Event Center Traffic Control/Bus Priority** – Costs associated with providing traffic control to provide participating transportation vehicles event center ingress and egress priority may also be proposed as project co-funding.
7. **Funding Restrictions** – MSRC funds may only be applied to direct operating costs associated with event center transportation programs. These include transportation operations and traffic control costs only. MSRC funds cannot be used:
- To fund capital acquisition costs associated with transportation vehicle purchase;
 - To recoup lost parking lot revenue.
8. **MSRC Funds Remitted on a Reimbursement Basis** - MSRC funds will be distributed on a reimbursement basis only upon completion of approved project milestones and submission of all required reports and invoices.
9. **Additional Conditions on MSRC Funding**
- MSRC projects are funded on a “site-specific” basis; that is, each project is evaluated with respect to the proposed event center’s unique location, traffic congestion, availability of other transportation options, etc. Thus, proposals that result in an award of MSRC funds are not allowed to change the event center venue under any circumstances. In the event the proposed venue becomes unavailable, nonviable, or no longer cost-effective, either contract negotiations will terminate or the contract will terminate, as applicable;

- Project Proposers are expected to provide a project implementation schedule as an element of their Proposal. In the event a Proposal is awarded MSRC funds resulting in a contract, the proposed project implementation schedule will become an element of the contract. In the event a contractor is unable to meet project milestones and requires additional time, the MSRC reserves the right to administratively authorize a one-time extension to the period of performance, not to exceed an additional one (1) year. No additional extensions to the contract period of performance will be granted;
- All projects must include an advertising, marketing, and outreach component. Acceptable outreach strategies are described in the previous section;
- Conflict of Interest – Proposers must identify possible conflicts of interest with other clients affected by actions performed by the firm on behalf of the MSRC. Although the bidder will not be automatically disqualified by reason of work performed for such firms, the MSRC reserves the right to consider the nature and extent of such work in evaluating the proposal.
- Certifications – All Proposers must complete and submit the included Attachment G forms as an element of their Proposal (unless specifically exempted below):
 - Internal Revenue Service Form W-9 – Request for Taxpayer Identification Number and Certification, and Franchise Tax Board Form 590 – Withholding Exemption Certificate. If you are selected for an award, you cannot be established as a vendor without this information.
 - Campaign Contributions Disclosure. This information must be provided at the time of application in accordance with California law. You may be asked for an update when awards are considered.
 - Disadvantaged Business Certification. The SCAQMD needs this information for their vendor database. It will not be considered in the determination of your MSRC funding award. Governmental entities do not need to complete this form.
- Finally, in accordance with state law, all projects awarded MSRC **Clean Transportation Funding™** are subject to audit. The provisions of the audit are discussed in the Sample Contract, included as Section 9 of this Program Announcement. It is highly recommended that bidders employ government accepted accounting practices when administering their MSRC co-funded project.

SECTION 4 – PROGRAM ANNOUNCEMENT TIMETABLE

The MSRC understands that developing an event center transportation programs project is a complex undertaking. The MSRC also appreciates that events scheduled at a major venue are firm; thus, the MSRC Program is designed to afford potential proposers as much flexibility as possible to allow development of outstanding event center transportation projects. To that end, the MSRC has established a 19-month window to prepare and submit proposals for funding consideration.

Table 4-1 - Key Event Center Transportation Programs Program Dates

Program Event	Date
Program Announcement Release	May 1, 2015
Application Submittal Period	May 1, 2015 – July 29, 2016
Latest Date/Time for Electronic Application Submittal	July 29, 2016 @ 11:59 p.m.

SECTION 5 - PROPOSAL PREPARATION & SUBMITTAL INSTRUCTIONS

An Event Center Transportation Project Proposal must be completed and submitted for funding consideration under this Program. Proposals must be prepared and submitted in accordance with the instructions outlined below.

1. **Proposal Preparation** – The following information must be included in all Proposals seeking MSRC **Clean Transportation Funding™** under the Major Event Center Transportation Programs Program:

a) **Attachments A-G** - Proposals must include the following completed Attachments, including all required supporting documentation as requested. Proposal Templates and Instructions are included in Section 8 of this Program Announcement:

- Attachment A: Proposer and Project Participant Information
- Attachment B: Project Description
- Attachment C: Project Cost Breakdown
- Attachment D: Project Implementation Schedule
- Attachment E: Memorandum of Understanding/letter of support between Event Center(s) and Transportation Services Provider(s) (as applicable)
- Attachment F: Transportation Service Ridership Estimates
- Attachment G: Certifications

2. **Electronic Application Submittal Process** – To reduce the need to photocopy, package, and physically submit paper applications, the FY 2015-'16 Major Event Center Transportation Program requires that applications be submitted electronically in PDF format using the MSRC Website. We believe this benefits the applicant, the MSRC staff, and the environment. As the online submittal process is a “new way of doing business” for both the MSRC and the project applicant, a tutorial has been developed to walk applicants step by step through the electronic application submittal process.

The application that will be submitted as a **PDF document** is comprised of seven (7) primary sections – these correspond to the application Attachments A-G as described in the preceding section. Thus, a complete application will be comprised of the following elements:

1. Attachment A: Proposer and Project Participant Information
2. Attachment B: Project Description
3. Attachment C: Project Cost Breakdown
4. Attachment D: Project Implementation Schedule
5. Attachment E: Memorandum of Understanding/letter of support between Event Center(s) and Transportation Services Provider(s) (as applicable)
6. Attachment F: Transportation Service Ridership Estimates
7. Attachment G: Certifications
 - a. W-9 Form and Form 590
 - b. Disadvantaged Business Certification Form
 - c. Campaign Contribution Disclosure Form

These seven sections, including Attachment G certifications, are to be compiled into a **single PDF document** for submittal to the MSRC Clean Transportation Funding Website. **Please note that ONLY PDF format can be accepted. Microsoft Word documents cannot be accepted by the MSRC Website.** Applicants will need to register on the MSRC Clean Transportation Funding website. The application submittal tutorial is available at www.cleantransportationfunding.org/proposal_process/upload_proposal.

Please note that the latest date and time to submit an application is July 29, 2016 at 11:59 pm!

3. **Addenda** – The Mobile Source Air Pollution Reduction Review Committee may modify the Program Announcement and/or issue supplementary information or guidelines relating to the Program Announcement during the Proposal preparation and acceptance period of May 1, 2015 to July 29, 2016. Amendments will be posted on the MSRC website at www.cleantransportationfunding.org.
4. **Proposal Modifications** - Once submitted, Proposals cannot be altered without the prior written consent of the Mobile Source Air Pollution Reduction Review Committee.
5. **Certificates of Insurance** - Upon notification of an MSRC funding award, a certificate(s) of insurance naming the South Coast Air Quality Management District (SCAQMD) as an additional insured will be required within forty-five (45) days. Entities that are self-insured will be required to provide proof of self-insurance prior to contract execution.

SECTION 6 - IF YOU NEED HELP...

This Program Announcement can be obtained by accessing the MSRC web site at www.cleantransportationfunding.org. MSRC staff members are available to answer questions during the Proposal acceptance period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For **General or Technical Assistance**, please contact:
Ray Gorski
MSRC Technical Advisor
Phone: 909-396-2479
E-mail: Ray@CleanTransportationFunding.org

- For **Administrative Assistance**, please contact:
Cynthia Ravenstein
MSRC Contracts Administrator
Phone: 909-396-3269
E-mail: Cynthia@CleanTransportationFunding.org

- For **Contractual Assistance**, please contact:
Dean Hughbanks
SCAQMD Procurement Manager
Phone: 909-396-2808
E-mail: dhughbanks@aqmd.gov

SECTION 7- PROPOSAL EVALUATION AND APPROVAL PROCESS

Proposals will be screened upon receipt by MSRC staff members to determine compliance with all mandatory requirements. Proposals deemed compliant will be forwarded to an Evaluation Subcommittee comprised of members of the MSRC Technical Advisory Committee (MSRC-TAC). Proposals will be evaluated in order of receipt using criteria established by the MSRC; these criteria are listed below. Proposals will be recommended for funding based upon their perceived conformance with the established criteria and in accordance with the maximum funding provisions stipulated in Section 3.3 of this Program Announcement. Please note that the MSRC reserves the right to make funding awards upon determination that a proposed event center transportation program is meritorious. As such, it is possible that all funding allocated to this Program could be fully expended prior to the close of the proposal submittal period, July 29, 2016.

Evaluation Criteria – Factors to be used when assessing the merits of a proposed event center transportation project are outlined below. Each project will be assessed individually against the evaluation criteria.

1. EVENT CENTER VENUE CHARACTERISTICS – Major Event Center characteristics will be evaluated to determine the potential benefits of implementing new or expanded transportation programs. Factors to be evaluated include:

- The event center location, population density, location relative to major arterial roadways and freeways, and demonstrated impact on traffic congestion in proximity to the event center;
 - The number of events scheduled or planned for the event center during the proposed period of program;
 - The average venue attendance at similar events;
 - Availability of transportation options other than personal automobile.
2. POTENTIAL FOR CONNECTIVITY WITH OTHER PUBLIC TRANSIT – The ability to integrate the proposed transportation program with other existing public transportation services will be evaluated. This includes potential connectivity with existing bus line, rail lines, etc. Connectivity with regional or municipal bus service, Metrolink, light rail, transit centers, park and ride lots, etc. will be evaluated;
 3. PROJECT CO-FUNDING – The amount of cash and in-kind co-funding, as well as the proposed use of co-funding, will be evaluated;
 4. PROGRAM CONTINUATION PLAN – The potential for extending event center transportation programs beyond the MSRC-funded period will be assessed. Projects that have a definitive plan for continuing transportation programs beyond the initial MSRC funding period will be more favorably considered.

Proposals deemed meritorious by the MSRC-TAC will be forwarded to the MSRC for evaluation, review, and potential funding approval. Please note that the MSRC retains full discretion and authority as it pertains to a potential award of **Clean Transportation Funding™**. The decision to award funding, or not award funding, will be based on the proposed project's potential to achieve direct and tangible emission reductions. Thus, it is anticipated that not all projects submitted for funding consideration will receive an MSRC award.

SECTION 8 - PROPOSAL ATTACHMENTS – PA2015-13

ATTACHMENT A: PROPOSAL CONTACT INFORMATION

A. Please provide the following Proposer information in the space provided (This is information about the entity submitting the proposal):

Business Name	
Division of:	
Subsidiary of:	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

Address			
City			
State		Zip	
Phone	() - Ext	Fax	() -
Contact Name		Title	
E-mail Address			
Payment Name if Different			

B. Funding Request Summary:

MSRC Clean Transportation Funding™ Requested: \$ _____

Other Co-Funding Applied to Project: \$ _____

Total Project Cost: \$ _____

C. Please provide the following information about the Event Center in the space provided below:

Event Center Name	
Website Address	
Type of Venue	

Address			
City			
State		Zip	
Phone	() - Ext	Fax	() -
Venue Contact Name		Title	
E-mail Address			
Payment Name if Different			

D. Please provide the following information about the Transportation Service Provider in the space provided (If this information was provided in Section 8.A, simply type "See Above"):

Business Name	
Division of:	
Subsidiary of:	
Website Address	
Type of Business	

Address			
City/Town			
State/Province		Zip	
Phone	() - Ext	Fax	() -
Contact Name		Title	
E-mail Address			
Payment Name if Different			

ATTACHMENT B: PROJECT DESCRIPTION

1. **Event Center Description** - Please provide a detailed description of the major event center. At a minimum, provide the following information:
 - a) General Characteristics of the Event Center, including type of venue, facility physical size, occupancy capacity, parking lot capacity, etc.;
 - b) Average number of events held annually or during a full season of operation;
 - c) Average attendance at a regularly scheduled event; peak attendance at special events;
 - d) Traffic conditions in proximity to event center prior to, during, and following a regularly scheduled event. If possible, provide a statement from the City or County Traffic Engineering Department verifying that traffic volumes on adjacent roadways and intersections prior to and following a scheduled event exceed roadway and intersection capacity.

2. **Proposed Transportation Program Description** – Provide a detailed description of the proposed event center transportation program. This should include, at a minimum:
 - a) A description of the vehicles proposed to perform transportation services, including the make and model, model year, engine model and year, alternative fuel type if required, seating positions, and total capacity (seated and standing) for each vehicle proposed to be utilized in event center transportation services.
 - b) The estimated number of events for which transportation program will be implemented. Include event schedules, dates, etc. to the extent feasible.
 - c) A description of how the transportation program services will be conducted, including passenger pickup locations, passenger drop-off locations, anticipated headways, hours of operation, etc.
 - d) For circulator-type transportation services, please include a map of the vehicle route(s) that graphically illustrates vehicle routing, passenger pickup and drop-off locations, etc.

3. **Connectivity with Other Public Transit Service** - Please discuss potential connectivity with other public transit services, including but not limited to potential connectivity with existing regional or municipal bus lines, Metrolink, light rail, transit centers, park and ride lots, etc.

4. **Advertising, Marketing, Outreach, and Promotion of Event Center Transportation Program** – Please describe the plan for conducting outreach and promotion of the availability of event center transportation programs. This may include, but is not limited to, radio, television, newspaper, or specialty publication advertisements; other printed materials; materials developed for incorporation into a website, electronic media, etc., transportation program kickoff events, ribbon cuttings, or news conferences, etc. Please note that outreach and promotion is a mandatory element of any event center transportation program project funded by the MSRC and may be accounted for as an in-kind co-funding contribution.

5. **Program Continuation Plan** – Please describe what efforts will be made by the event center/transportation provider partnership to secure necessary resources to continue event center transportation program beyond the initial MSRC funding period.

ATTACHMENT C: COST BREAKDOWN: Please provide a detailed cost breakdown of the proposed project. Please note that MSRC **Clean Transportation Funding™** is intended to help offset the cost of transportation program, and cannot be applied to capital equipment purchases or used to offset lost parking facility revenues. The MSRC reserves the right to exclude cost elements deemed unallowable, as well as award funding in an amount less than the requested amount.

ATTACHMENT D: PROJECT IMPLEMENTATION SCHEDULE

Please provide a Milestone Schedule for your proposed event center transportation program project. This should include, at a minimum, the anticipated date event center transportation program will commence, as well as any additional information regarding scheduled events to be supported by transportation services.

ATTACHMENT E: MEMORANDUM OF UNDERSTANDING/LETTER OF SUPPORT BETWEEN TRANSPORTATION SERVICE PROVIDER (PROPOSED CONTRACTOR) AND EVENT CENTER SITE

For projects seeking MSRC **Clean Transportation Funding™** for implementation or expansion of an event center transportation program, a fully executed Memorandum of Understanding (MOU) or letter of support must be submitted as an element of the proposal package.

The MOU/Letter of Support must be provided at the time of Proposal Submittal and must contain the following essential elements, at a minimum:

- The parties to the MOU/Letter of Support, including the transportation service provider(s) and event center site owner or authorized representative;
- The term of the MOU/Letter of Support;
- The specific location of where transportation services will be provided;
- Anticipated dates of transportation service start of operation and completion;
- Executed signatures by individuals authorized on behalf of the parties to the MOU/Letter of Support.

ATTACHMENT F: TRANSPORTATION PROGRAM RIDERSHIP ESTIMATES

Please provide an estimate of the anticipated utilization of the event center transportation program if implemented as proposed. Please include any empirical information used to generate ridership estimates, including but not limited to survey results, focus group results, etc.

Please note that as a condition of funding award, the contractor will be required to survey, document, or otherwise quantify the patronage of the event center transportation program in order for the MSRC to quantify motor vehicle emission reductions achieved by the transportation program.

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983. You must give your correct TIN, but you do not have to sign the certification.

2. Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983. You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.

3. Real estate transactions. You must sign the certification. You may cross out item 2 of the certification.

4. Other payments. You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).

5. Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions. You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

***Note.** Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

YEAR

CALIFORNIA FORM

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name

Payee

Name

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.)

City (If you have a foreign address, see instructions.)

State ZIP Code

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

- Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States

TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos

TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla

DISADVANTAGED BUSINESS CERTIFICATION

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority

business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

Statements of certification:

As a prime contractor to the SCAQMD, _____ (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:

Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise |
| <input type="checkbox"/> Local business | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise | |

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____

State of California Public Works Contractor Registration No. _____ . MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

A. NAME

TITLE

B. TELEPHONE NUMBER

DATE

Definitions

Disabled Veteran-Owned Business Enterprise means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

Joint Venture means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

Local Business means a business that meets all of the following criteria:

- has an ongoing business within the boundary of the SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

Minority-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

"Minority" person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

Small Business Enterprise means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

Small Business Joint Venture means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

Women-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.



Request for Proposals

For

Programmatic Outreach Services

*in Support of MSRC Clean Transportation
Funding Programs*

RFP P2015-31

May 1, 2015

SECTION 1 - INTRODUCTION

The purpose of this RFP is to retain a public relations firm, communications firm, or other public or private entity (consultant) to assist the MSRC in promoting mobile source emission reduction programs funded under the AB 2766 MSRC Discretionary Fund, referred to as MSRC **Clean Transportation Funding™** Programs, as well as providing outreach assistance to current and prospective MSRC project implementers.

The AB 2766 Discretionary Fund was enacted by the California State Legislature to reduce air pollution from motor vehicles, including automobiles, trucks, buses, etc. Over the past 24 years, the MSRC has funded the implementation of hundreds of projects. Examples of air pollution reduction strategies pursued by the MSRC include incentives for the purchase of alternative-fuel vehicles and their supporting infrastructure, replacement of old, high-polluting engines with new, cleaner engines, implementation of ridesharing and other transportation demand management programs, public education programs, and research and development projects.

Each year—or more recently, every other year—the MSRC, with assistance from its Technical Advisory Committee (MSRC-TAC), undertakes a Work Program development effort that establishes their funding priorities and identifies the specific categories for which projects will be solicited.

It is envisioned that the scope of Programmatic Outreach Services will include, but not necessarily be limited to, the following:

- Development and dissemination of press releases pertaining to specific MSRC-sponsored projects or programs;
- Development and dissemination of programmatic outreach, public awareness, and marketing materials to the general public and/or targeted markets;
- Provide direct outreach assistance to current and potential MSRC contractors as well as participants, users, and stakeholders of specific MSRC-sponsored programs.

The selected consultant will work closely with the MSRC-TAC, the MSRC Contracts Administrator, and the MSRC Technical Advisor. The consultant will also interface with the SCAQMD's Public Affairs office, as well as with similar departments at MSRC member agencies.

SECTION 2 - PARTICIPATION GUIDELINES

The following guidelines, requirements, and conditions have been established and apply to all proposers:

1. **Number of Awards:** One award is anticipated under this RFP.
2. **Contract Term:** The anticipated period of performance for any contract awarded under this solicitation is two (2) years commencing January 1, 2016 and ending December 31, 2017. In addition, the contract will contain an option provision for one (1) additional two-year period that can be exercised at the sole discretion of the MSRC based upon the MSRC's determination of satisfactory performance by the Consultant.
3. **Contract Value:** The total available funding under this solicitation is not to exceed \$120,000 (base contract period of performance not including option). In the event the MSRC chooses to exercise a contract option provision, funding for the contract option will come from a subsequent MSRC Work Program funding allocation.

4. **Contract Type:** The selected bidder will enter into a Time and Materials (T&M) contract with the SCAQMD. The contract will include a base level of effort corresponding to Tasks included in the Contract Statement of Work, plus a provision allowing the issuance of Task Orders for specific special projects identified by the MSRC.

SECTION 3 – STATEMENT OF WORK

The following paragraphs outline the broad parameters of the Programmatic Outreach Services sought by the MSRC. Not all tasks or subtasks outlined below will necessarily be authorized during the performance of any ensuing contract. The MSRC reserves the right to modify or substitute Tasks on an as-needed basis during the contracted period of performance. In addition, Special Projects may be assigned via Task Order at anytime during the contract period of performance.

Task 1 – Development of Programmatic Outreach Strategy

With input from the MSRC-TAC, and with consideration of budgetary constraints, CONTRACTOR shall develop an Outreach Strategy outlining supplemental activities to be undertaken under this contract as well as activities which might be undertaken in subsequent years through the end of 2019. CONTRACTOR shall present the Outreach Strategy to the MSRC for review and approval. CONTRACTOR shall revise the Outreach Strategy as directed by the MSRC. Based on the approved Outreach Strategy, additional Tasks shall be identified and Task Orders issued by the MSRC Contracts Administrator. The Outreach Strategy shall include, at a minimum:

- A description of Special Projects and focused outreach activities recommended for implementation by the Programmatic Outreach Coordinator;
- The recommended implementation timing for each Special Project or related focused outreach activity identified above,
- The targeted audience for each identified Special Project or focused outreach;
- Marketing and outreach materials to be developed in support of Special Projects and focused outreach activities, including a rough-order-of magnitude budget estimate for materials and labor;
- Identification of other products to be developed in support of Special Project and/or focused outreach.

Task 2 - Outreach and Promotion of MSRC Work Program Achievements

Assist the MSRC in the promotion of the MSRC **Clean Transportation Funding™** Program. Contractor shall develop strategies for on-going communication between the MSRC and local government agencies, councils of governments, other public agencies, the media, community organizations, legislators, private entities, contractors, and the general public. In addition, the contractor will provide outreach support to existing MSRC contractors, by assisting them with the promotion of their MSRC-funded projects. Programmatic outreach activities under this Task include, at a minimum:

CONTRACTOR shall identify opportunities/venues for CONTRACTOR, MSRC and MSRC-TAC members, and/or MSRC staff to promote MSRC clean air achievements, including accomplishments of MSRC contractors and participating stakeholders. CONTRACTOR shall describe and provide analysis of the communication value posed by each opportunity, considering such factors as the relation to the MSRC's current and recently concluded Work Programs, the potential size and composition of the audience, and any costs to participate. CONTRACTOR shall submit each description and analysis to the MSRC Contracts Administrator as opportunities are identified.

MSRC contractor support activity may include meeting with contractors, drafting press releases, assisting with media, attending community events related to the project, and assisting with key speaking points.

Upon direction, CONTRACTOR shall perform content review of the MSRC website. CONTRACTOR shall support preparation of material for inclusion on the MSRC's website, including editorial suggestions and content for the electronic newsletter. CONTRACTOR shall regularly review content of the MSRC Facebook page and provide editorial suggestions and content.

Task 3 - Development and Dissemination of Marketing/Promotional Materials

Develop marketing/promotional materials tailored to the media, general public or other MSRC-targeted markets. Materials shall promote the environmental, health, social, and economic benefits of the MSRC's **Clean Transportation Funding™** efforts. This can include materials such as letters to the editor as well as a crisis communication plan that may be needed for rapid response to news issues/opportunities. Incorporate costs of translation into language(s) other than English, when appropriate. Programmatic outreach activities under this task shall include, at a minimum:

- Design and update promotional materials as needed;
- Development of press releases, press kits, or other materials tailored specifically to the print and/or broadcast media.

Task 4 - Participation in Events and Meetings

Participate in monthly outreach coordination meetings with MSRC staff. At the direction of the MSRC or MSRC staff, participate in other meetings, special events, technical conferences, etc. This includes, at a minimum:

- Attendance and participation in MSRC, MSRC-TAC, and TAC Subcommittee meetings as requested to solicit input and/or provide status reports on outreach and promotional activities and to remain current on program activities.

Task 5 – Work Program Development Outreach

As part of their process of determining funding priorities for each Work Program, the MSRC seeks stakeholder input through a series of workshops held throughout the SCAQMD region. Once every two years, CONTRACTOR shall work with MSRC staff to:

- Identify a “co-sponsor” for each workshop, with each co-sponsor to provide a public venue and limited staff assistance;
- Organize, publicize, and implement at least four workshops;
- Prepare and submit a report summarizing input obtained from workshops, for presentation to MSRC.

Task 6 - Strategic Market Direction for MSRC Work Programs

The MSRC Work Programs may be impacted by upcoming local, regional, and state budget and regulatory efforts. Taking into account existing tools available to update the MSRC on these impacts, the Outreach Coordinator shall provide necessary market research and information gathering on regulatory direction and emerging strategies. The Coordinator will identify possible new strategic directions for the MSRC to address, enabling the MSRC to respond to these changes and to perform and communicate its mission in a more effective manner. CONTRACTOR shall, at a minimum:

- Review the monthly SCAQMD legislative agenda, as well as other materials from the SCAQMD, other environmental agencies, and the State, which outline budget and regulatory efforts with possible impacts to the MSRC;
- Research and clarify impact of these efforts on the MSRC Work Program;
- Report back to the MSRC on the status of these efforts, assessing the strategic changes and possible impacts to the MSRC Work Programs;
- If directed by the MSRC, provide outreach to these entities about the successes and possible impacts to the MSRC Work Programs.

SECTION 4 – PROPOSER QUALIFICATIONS

Proposers responding to this solicitation should have significant prior experience in the following areas:

- Demonstrated experience in the development and dissemination of marketing/public awareness materials, including brochures, press kits, press releases, etc;
- Demonstrated experience in the coordination and facilitation of media events, including press conferences and media interviews, as well as the preparation of written commentary and speeches;
- Direct experience working with public relations departments of both private and government agencies;
- Recognized expertise and resources to provide necessary market research and information gathering on regulatory direction and emerging air pollution reduction strategies;
- Demonstrated knowledge of the MSRC, its mission, past accomplishments, and areas of programmatic emphasis.

SECTION 5 - SCHEDULE OF EVENTS

The Programmatic Outreach Services selection process will be conducted in accordance with the timeline illustrated in Table 5-1, below. Proposals may be submitted at any time during the period commencing May 1, 2015 and ending June 17, 2015. *Please note that proposals must be received no later than 5:00 p.m. on June 17, 2015. Late proposals will not be evaluated and will not be eligible for MSRC funding.*

Table 5-1 - Key Programmatic Outreach Solicitation Dates

Program Event	Date
Request for Proposals Release	May 1, 2015
All Proposals Due No Later Than	June 17, 2015 @ 5:00 p.m.
MSRC Consideration of Contract Award	August 20, 2015
SCAQMD Board Approval of Contract Award	September 4, 2015
Anticipated Contract Start	January 1, 2016

SECTION 6 - PROPOSAL PREPARATION INSTRUCTIONS

A formal written proposal must be completed and submitted for consideration under this RFP. Proposals must be prepared and submitted in accordance with the instructions included herein.

- A. **Proposal Preparation** - The maximum length of proposals accepted will be twenty (20) 8-1/2 X 11 sheets of paper. All pages and appendices must be numbered. Portfolios of no more than fifty (50) 8-1/2 X 11 sheets of paper, including information on bidder's past outreach or public relations activities and other relevant experience, may be attached. Samples of previous relevant work may also be submitted in video, CD-ROM, and/or audio formats. The following information must be included in all Proposals:
1. **Cover Letter** - Transmittal of the proposal must specify the subject of the proposal, the RFP number, and Bidder's name, address, e-mail address, and telephone number. The letter shall specify contact person(s) for technical and contractual matters, and be signed by the person(s) authorized to contractually bind the bidding entity. For joint proposals (from more than one entity) the bidder must include a statement confirming authorization to act on behalf of other co-bidders. The bidder must include a letter of support, teaming agreement, memorandum of understanding, etc., including contact name, e-mail address, and telephone number from all proposing entities of a joint proposal.
 2. **Summary Sheet** - Provide basic information indicated. The summary sheet form is included in this RFP as Attachment A.
 3. **Approach to Accomplishing the Statement of Work** – This section comprises the body of the proposal. The proposer should:
 - a) Describe their qualifications and experience in detail, addressing all requirements as specified in RFP Sections 3 and 4, above;
 - b) Provide samples of materials developed under previous outreach efforts that are relevant to the Statement of Work requirements specified in this solicitation. Please submit examples of previous work in accordance with the page limitations and format requirements specified above;
 - c) Include references for similar work performed during the past three (3) years, including contact name, organization, title, and telephone number.
 4. **Organization** - This section shall describe the organization proposed to perform Programmatic Outreach on behalf of the MSRC. Please list all proposed staff by name and responsibility. Provide a resume or similar statement of qualifications for each individual named in the proposal.
 5. **Cost Proposal** – Please provide the following cost proposal information:
 - a) Labor - Identify each professional category of direct project support and the fully burdened rate per hour. The rates quoted must include labor, general, administrative, and overhead costs;
 - b) Equipment and Supplies - Provide an itemized list of any equipment and/or supplies to be used and/or purchased during performance of the contract, including the item to be purchased, number, and unit cost. Please note that the MSRC will not pay for any equipment or supply costs unless adequately justified;

- c) Subcontractor Costs - Identify subcontractors by name, the basis for the subcontractors selection and describe in detail the work the subcontractors will be hired to perform, list their cost per hour or per day, and the number of hours or days their services will be used;
- d) Options – As stated in Section 2 above, the contract will include a 2-year base period of performance with an option provision for one (1) additional two-year period. Please include a cost proposal for continuing Programmatic Outreach Services for one (1) additional two-year period. The cost breakdown for the options should include fully-burdened labor rates, equipment and supply costs, and subcontractor costs. Any labor rate increases for the option period **must** be reflected in the cost proposal.
- e) Billing Procedures - Describe billing procedures for the project and how costs will be documented for invoicing the District for reimbursement of expenditures;
- f) Miscellaneous Costs - if any.

Please consider the following when preparing the cost proposal:

- Charges for supplies, equipment, and subcontractors will be paid at cost. No profit will be paid on these costs;
 - Costs are reimbursed on an as-incurred basis only;
 - Some portion of the cost proposal should be allocated for special projects which may be assigned via Task Order;
 - The Bidder is required to certify as part of their proposal submission that the prime contractor and subcontractor rates contained in the proposal are no higher than the rates offered to the prime or subcontractor's most-favored customer.
6. **Co-funding** – Co-funding is not required under this solicitation. However, if financial or in-kind co-funding is offered by the proposer, the forms and sources of all co-funding must be specified. In addition, describe how co-funding will be used in relation to specific Programmatic Outreach tasks.
 7. **Conflict of Interest** - Address possible conflicts of interest with other clients affected by actions performed by the firm on behalf of the MSRC. Although the bidder will not be automatically disqualified by reason of work performed for such firms, the MSRC reserves the right to consider the nature and extent of such work in evaluating the proposal.
 8. **Certifications** – All proposers must complete and submit the following Attachment B forms as an element of their Proposal (unless specifically exempted below):
 - Internal Revenue Service Form W-9 – Request for Taxpayer Identification Number and Certification, and Franchise Tax Board Form 590 – Withholding Exemption Certificate. If you are selected for an award, you cannot be established as a vendor without this information.
 - Campaign Contributions Disclosure. This information must be provided at the time of proposal in accordance with California law.
 - Disadvantaged Business Certification. The SCAQMD needs this information for their vendor database.
 9. **Certificates of Insurance** - Bidders are required to provide a statement that upon notification of award, a certificate(s) of insurance naming the SCAQMD as an additional insured will be provided within forty-five (45) days. Entities that are self-insured are required to provide a statement to that effect in their proposal.

SECTION 7 - PROPOSAL SUBMITTAL INSTRUCTIONS

1. Proposers must submit one (1) original proposal and three (3) copies (total of four) in a sealed envelope, marked in the upper left-hand corner with the name and address of the proposer and the words "P2015-31, Programmatic Outreach". The original proposal should be submitted unbound on white, 8 ½" x 11" recycled paper. The last date and time to submit is June 17, 2015 at 5:00 p.m. All proposals should be directed to:

Procurement Unit
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

All proposals will be time and date stamped upon receipt by the South Coast Air Quality Management District. **PLEASE NOTE THAT ANY PROPOSAL TIME STAMPED 5:01 P.M. OR LATER ON JUNE 17, 2015 WILL NOT BE REVIEWED AND WILL NOT BE AWARDED FUNDING**. No exceptions will be granted regardless of reason or circumstances.

2. In addition to the paper proposal, proposers must also submit an electronic copy of their proposal in either PDF-format or Microsoft Word. A CD-ROM disk should be enclosed with the paper copies described above.

Please note that the Proposal is only deemed "received" when the four (4) complete paper copies are submitted in accordance with the above instructions - submittal of an electronic proposal only does not constitute receipt by the SCAQMD. In addition, please note that faxed proposals will not be accepted.

3. A proposal may be immediately rejected if:
 - It is not prepared in the format described; or
 - It is not signed by an individual authorized to represent the bidding entity.
4. The MSRC reserves the right to reject any or all proposals. All responses become the property of MSRC. One copy of the proposal shall be retained for SCAQMD files. Additional copies and materials will be returned only if requested and at the proposer's expense.
5. The Mobile Source Air Pollution Reduction Review Committee may modify the Request for Proposals and/or issue supplementary information or guidelines relating to the RFP during the proposal preparation period of May 1, 2015 to June 17, 2015. Amendments will be posted on the MSRC website at www.cleantransportationfunding.org.
6. Once submitted, proposals cannot be altered without the prior written consent of the Mobile Source Air Pollution Reduction Review Committee.

SECTION 8 - IF YOU NEED HELP...

This Request for Proposals can be obtained by accessing the MSRC web site at www.CleanTransportationFunding.org. MSRC staff members are available to answer questions during the proposal preparation period. In order to help expedite assistance, please direct your inquiries to the applicable staff person, as follows:

- For **General and Administrative Assistance**, please contact:
 Cynthia Ravenstein
 MSRC Contracts Administrator
 Phone: 909-396-3269
 Fax: 909-396-3682
 E-mail: Cynthia@CleanTransportationFunding.org

- For **Contractual Assistance**, please contact:
 Dean Hughbanks
 SCAQMD Procurement Manager
 Phone: 909-396-2808
 E-mail: dhughbanks@aqmd.gov

SECTION 9- PROPOSAL EVALUATION PROCESS

The MSRC and its Technical Advisory Committee (TAC) will evaluate all proposals to determine responsiveness to the RFP. MSRC and SCAQMD staff will provide administrative and technical assistance during the proposal evaluation process.

Proposals will be evaluated and points awarded based upon the criteria outlined in Section 10. The evaluation criteria are included to provide the bidder additional guidance as to the particular components of the proposal that will be evaluated.

The most qualified Bidders will be short-listed and may be interviewed by an MSRC-TAC Evaluation Subcommittee during the week of July 13, 2015 at the SCAQMD Headquarters in Diamond Bar, California. While an attempt will be made to accommodate Bidders' schedules, the MSRC cannot guarantee that an interview can be scheduled at a time convenient to the Bidder. The proposals, and any interviews, will be evaluated based on the selection criteria below.

SECTION 10 - EVALUATION CRITERIA

The following evaluation criteria form the basis upon which proposal scoring and selection will be conducted. The maximum score available is 110 points.

1. PROPOSER QUALIFICATIONS & RELATED EXPERIENCE:

Total Points Available: 85 points

As discussed in RFP Section 6.A.3., proposers are required to address their qualifications and past experience as they relate to the Proposer Qualifications and Statement of Work Requirements delineated in RFP Sections 3 and 4, respectively. Each proposal will be evaluated and assigned a score relative to the following four criteria:

- | | |
|--|-----------|
| ▪ Responsiveness of proposal to RFP requirements and clearly stated understanding of the work to be performed; | 25 points |
| ▪ Overall experience and qualifications of the proposer; | 25 points |
| ▪ Demonstrated past performance on relevant outreach projects. | 25 points |
| ▪ Certified as DVBE, local business and/or small business. as described below | 10 Points |

A. DVBE/LOCAL BUSINESS/SMALL BUSINESS STATUS

On May 27, 1999, the MSRC approved a policy regarding other evaluation factors for inclusion in MSRC procurements. MSRC procurements, where the services/product solicited are assistance to the MSRC in implementing its work program and where a portion or all of these services are not readily quantifiable, the MSRC shall only have the following "Other" Criteria in the evaluation component of the procurement which do not emphasize quantifiable emissions reductions:

It is the policy of the MSRC to encourage participation by disabled veteran business entities, local businesses and small business and in the bidding process. The MSRC shall provide five (5) points each for Proposers who meet the following criteria, with the maximum points available not-to-exceed ten (10) points. Points shall only be awarded should the Proposer, upon submission of its proposal, provide documents from a state or local agency certifying that it qualifies in the categories described below:

#1 "Disabled Veteran" as used herein is a United States military, a naval, or air service veteran with at least 10 percent service-connected disability. "Disabled Veteran Business Enterprise" as used herein means a sole proprietorship or partnership or corporation which is at least 51 percent owned by one or more disabled veterans and whose management and control of the daily business operations are by one or more disabled veterans.

#2 "Local Business" as used herein means a Proposer which can demonstrate that it has an on-going business within the SCAQMD at the time of the bid proposal and performs 90% of the work related to the contract with the SCAQMD.

#3 "Small Business" as used herein means a business that is:

- 1) independently owned and operated business, and
- 2) is not dominant in its field or operation and
- 3) together with affiliates is either a service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars or less over the previous three years, or a manufacturer with 100 or fewer employees.

2. COST:

Maximum Points Available: 25 points

As discussed in RFP Section 6.A.5., bidders are required to submit a cost proposal for the proposed project. Following a review of the cost proposal, the Evaluation Subcommittee will assign a score based upon the competitiveness and completeness of the information provided.

SECTION 11 - PROPOSAL ATTACHMENTS

ATTACHMENT A: PROPOSAL SUMMARY INFORMATION

Please provide the following proposer information in the space provided:

Business Name	
Division of:	
Subsidiary of:	
Website Address	
Type of Business <i>Check One:</i>	<input type="checkbox"/> Individual <input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____ <input type="checkbox"/> Other _____

Address			
City/Town			
State/Province		Zip	
Phone	() - Ext		
Contact		Title	
E-mail Address			
Payment Name if Different			

Note. If you are a U.S. person and a requester gives you a form other than Form W-9 to request your TIN, you must use the requester's form if it is substantially similar to this Form W-9.

Definition of a U.S. person. For federal tax purposes, you are considered a U.S. person if you are:

- An individual who is a U.S. citizen or U.S. resident alien;
- A partnership, corporation, company, or association created or organized in the United States or under the laws of the United States;
- An estate (other than a foreign estate); or
- A domestic trust (as defined in Regulations section 301.7701-7).

Special rules for partnerships. Partnerships that conduct a trade or business in the United States are generally required to pay a withholding tax under section 1446 on any foreign partners' share of effectively connected taxable income from such business. Further, in certain cases where a Form W-9 has not been received, the rules under section 1446 require a partnership to presume that a partner is a foreign person, and pay the section 1446 withholding tax. Therefore, if you are a U.S. person that is a partner in a partnership conducting a trade or business in the United States, provide Form W-9 to the partnership to establish your U.S. status and avoid section 1446 withholding on your share of partnership income.

In the cases below, the following person must give Form W-9 to the partnership for purposes of establishing its U.S. status and avoiding withholding on its allocable share of net income from the partnership conducting a trade or business in the United States:

- In the case of a disregarded entity with a U.S. owner, the U.S. owner of the disregarded entity and not the entity;
- In the case of a grantor trust with a U.S. grantor or other U.S. owner, generally, the U.S. grantor or other U.S. owner of the grantor trust and not the trust; and
- In the case of a U.S. trust (other than a grantor trust), the U.S. trust (other than a grantor trust) and not the beneficiaries of the trust.

Foreign person. If you are a foreign person or the U.S. branch of a foreign bank that has elected to be treated as a U.S. person, do not use Form W-9. Instead, use the appropriate Form W-8 or Form 8233 (see Publication 515, Withholding of Tax on Nonresident Aliens and Foreign Entities).

Nonresident alien who becomes a resident alien. Generally, only a nonresident alien individual may use the terms of a tax treaty to reduce or eliminate U.S. tax on certain types of income. However, most tax treaties contain a provision known as a "saving clause." Exceptions specified in the saving clause may permit an exemption from tax to continue for certain types of income even after the payee has otherwise become a U.S. resident alien for tax purposes.

If you are a U.S. resident alien who is relying on an exception contained in the saving clause of a tax treaty to claim an exemption from U.S. tax on certain types of income, you must attach a statement to Form W-9 that specifies the following five items:

1. The treaty country. Generally, this must be the same treaty under which you claimed exemption from tax as a nonresident alien.
2. The treaty article addressing the income.
3. The article number (or location) in the tax treaty that contains the saving clause and its exceptions.
4. The type and amount of income that qualifies for the exemption from tax.
5. Sufficient facts to justify the exemption from tax under the terms of the treaty article.

Example. Article 20 of the U.S.-China income tax treaty allows an exemption from tax for scholarship income received by a Chinese student temporarily present in the United States. Under U.S. law, this student will become a resident alien for tax purposes if his or her stay in the United States exceeds 5 calendar years. However, paragraph 2 of the first Protocol to the U.S.-China treaty (dated April 30, 1984) allows the provisions of Article 20 to continue to apply even after the Chinese student becomes a resident alien of the United States. A Chinese student who qualifies for this exception (under paragraph 2 of the first protocol) and is relying on this exception to claim an exemption from tax on his or her scholarship or fellowship income would attach to Form W-9 a statement that includes the information described above to support that exemption.

If you are a nonresident alien or a foreign entity, give the requester the appropriate completed Form W-8 or Form 8233.

Backup Withholding

What is backup withholding? Persons making certain payments to you must under certain conditions withhold and pay to the IRS 28% of such payments. This is called "backup withholding." Payments that may be subject to backup withholding include interest, tax-exempt interest, dividends, broker and barter exchange transactions, rents, royalties, nonemployee pay, payments made in settlement of payment card and third party network transactions, and certain payments from fishing boat operators. Real estate transactions are not subject to backup withholding.

You will not be subject to backup withholding on payments you receive if you give the requester your correct TIN, make the proper certifications, and report all your taxable interest and dividends on your tax return.

Payments you receive will be subject to backup withholding if:

1. You do not furnish your TIN to the requester,
2. You do not certify your TIN when required (see the Part II instructions on page 3 for details),

3. The IRS tells the requester that you furnished an incorrect TIN,
4. The IRS tells you that you are subject to backup withholding because you did not report all your interest and dividends on your tax return (for reportable interest and dividends only), or
5. You do not certify to the requester that you are not subject to backup withholding under 4 above (for reportable interest and dividend accounts opened after 1983 only).

Certain payees and payments are exempt from backup withholding. See *Exempt payee code* on page 3 and the separate Instructions for the Requester of Form W-9 for more information.

Also see *Special rules for partnerships* above.

What is FATCA reporting?

The Foreign Account Tax Compliance Act (FATCA) requires a participating foreign financial institution to report all United States account holders that are specified United States persons. Certain payees are exempt from FATCA reporting. See *Exemption from FATCA reporting code* on page 3 and the Instructions for the Requester of Form W-9 for more information.

Updating Your Information

You must provide updated information to any person to whom you claimed to be an exempt payee if you are no longer an exempt payee and anticipate receiving reportable payments in the future from this person. For example, you may need to provide updated information if you are a C corporation that elects to be an S corporation, or if you no longer are tax exempt. In addition, you must furnish a new Form W-9 if the name or TIN changes for the account; for example, if the grantor of a grantor trust dies.

Penalties

Failure to furnish TIN. If you fail to furnish your correct TIN to a requester, you are subject to a penalty of \$50 for each such failure unless your failure is due to reasonable cause and not to willful neglect.

Civil penalty for false information with respect to withholding. If you make a false statement with no reasonable basis that results in no backup withholding, you are subject to a \$500 penalty.

Criminal penalty for falsifying information. Willfully falsifying certifications or affirmations may subject you to criminal penalties including fines and/or imprisonment.

Misuse of TINs. If the requester discloses or uses TINs in violation of federal law, the requester may be subject to civil and criminal penalties.

Specific Instructions

Line 1

You must enter one of the following on this line; **do not** leave this line blank. The name should match the name on your tax return.

If this Form W-9 is for a joint account, list first, and then circle, the name of the person or entity whose number you entered in Part I of Form W-9.

a. **Individual.** Generally, enter the name shown on your tax return. If you have changed your last name without informing the Social Security Administration (SSA) of the name change, enter your first name, the last name as shown on your social security card, and your new last name.

Note. ITIN applicant: Enter your individual name as it was entered on your Form W-7 application, line 1a. This should also be the same as the name you entered on the Form 1040/1040A/1040EZ you filed with your application.

b. **Sole proprietor or single-member LLC.** Enter your individual name as shown on your 1040/1040A/1040EZ on line 1. You may enter your business, trade, or "doing business as" (DBA) name on line 2.

c. **Partnership, LLC that is not a single-member LLC, C Corporation, or S Corporation.** Enter the entity's name as shown on the entity's tax return on line 1 and any business, trade, or DBA name on line 2.

d. **Other entities.** Enter your name as shown on required U.S. federal tax documents on line 1. This name should match the name shown on the charter or other legal document creating the entity. You may enter any business, trade, or DBA name on line 2.

e. **Disregarded entity.** For U.S. federal tax purposes, an entity that is disregarded as an entity separate from its owner is treated as a "disregarded entity." See Regulations section 301.7701-2(c)(2)(iii). Enter the owner's name on line 1. The name of the entity entered on line 1 should never be a disregarded entity. The name on line 1 should be the name shown on the income tax return on which the income should be reported. For example, if a foreign LLC that is treated as a disregarded entity for U.S. federal tax purposes has a single owner that is a U.S. person, the U.S. owner's name is required to be provided on line 1. If the direct owner of the entity is also a disregarded entity, enter the first owner that is not disregarded for federal tax purposes. Enter the disregarded entity's name on line 2, "Business name/disregarded entity name." If the owner of the disregarded entity is a foreign person, the owner must complete an appropriate Form W-8 instead of a Form W-9. This is the case even if the foreign person has a U.S. TIN.

Line 2

If you have a business name, trade name, DBA name, or disregarded entity name, you may enter it on line 2.

Line 3

Check the appropriate box in line 3 for the U.S. federal tax classification of the person whose name is entered on line 1. Check only one box in line 3.

Limited Liability Company (LLC). If the name on line 1 is an LLC treated as a partnership for U.S. federal tax purposes, check the "Limited Liability Company" box and enter "P" in the space provided. If the LLC has filed Form 8832 or 2553 to be taxed as a corporation, check the "Limited Liability Company" box and in the space provided enter "C" for C corporation or "S" for S corporation. If it is a single-member LLC that is a disregarded entity, do not check the "Limited Liability Company" box; instead check the first box in line 3 "Individual/sole proprietor or single-member LLC."

Line 4, Exemptions

If you are exempt from backup withholding and/or FATCA reporting, enter in the appropriate space in line 4 any code(s) that may apply to you.

Exempt payee code.

- Generally, individuals (including sole proprietors) are not exempt from backup withholding.
- Except as provided below, corporations are exempt from backup withholding for certain payments, including interest and dividends.
- Corporations are not exempt from backup withholding for payments made in settlement of payment card or third party network transactions.
- Corporations are not exempt from backup withholding with respect to attorneys' fees or gross proceeds paid to attorneys, and corporations that provide medical or health care services are not exempt with respect to payments reportable on Form 1099-MISC.

The following codes identify payees that are exempt from backup withholding. Enter the appropriate code in the space in line 4.

- 1—An organization exempt from tax under section 501(a), any IRA, or a custodial account under section 403(b)(7) if the account satisfies the requirements of section 401(f)(2)
- 2—The United States or any of its agencies or instrumentalities
- 3—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- 4—A foreign government or any of its political subdivisions, agencies, or instrumentalities
- 5—A corporation
- 6—A dealer in securities or commodities required to register in the United States, the District of Columbia, or a U.S. commonwealth or possession
- 7—A futures commission merchant registered with the Commodity Futures Trading Commission
- 8—A real estate investment trust
- 9—An entity registered at all times during the tax year under the Investment Company Act of 1940
- 10—A common trust fund operated by a bank under section 584(a)
- 11—A financial institution
- 12—A middleman known in the investment community as a nominee or custodian
- 13—A trust exempt from tax under section 664 or described in section 4947

The following chart shows types of payments that may be exempt from backup withholding. The chart applies to the exempt payees listed above, 1 through 13.

IF the payment is for . . .	THEN the payment is exempt for . . .
Interest and dividend payments	All exempt payees except for 7
Broker transactions	Exempt payees 1 through 4 and 6 through 11 and all C corporations. S corporations must not enter an exempt payee code because they are exempt only for sales of noncovered securities acquired prior to 2012.
Barter exchange transactions and patronage dividends	Exempt payees 1 through 4
Payments over \$600 required to be reported and direct sales over \$5,000 ¹	Generally, exempt payees 1 through 5 ²
Payments made in settlement of payment card or third party network transactions	Exempt payees 1 through 4

¹ See Form 1099-MISC, Miscellaneous Income, and its instructions.

² However, the following payments made to a corporation and reportable on Form 1099-MISC are not exempt from backup withholding: medical and health care payments, attorneys' fees, gross proceeds paid to an attorney reportable under section 6045(f), and payments for services paid by a federal executive agency.

Exemption from FATCA reporting code. The following codes identify payees that are exempt from reporting under FATCA. These codes apply to persons submitting this form for accounts maintained outside of the United States by certain foreign financial institutions. Therefore, if you are only submitting this form for an account you hold in the United States, you may leave this field blank. Consult with the person requesting this form if you are uncertain if the financial institution is subject to these requirements. A requester may indicate that a code is not required by providing you with a Form W-9 with "Not Applicable" (or any similar indication) written or printed on the line for a FATCA exemption code.

- A—An organization exempt from tax under section 501(a) or any individual retirement plan as defined in section 7701(a)(37)
- B—The United States or any of its agencies or instrumentalities
- C—A state, the District of Columbia, a U.S. commonwealth or possession, or any of their political subdivisions or instrumentalities
- D—A corporation the stock of which is regularly traded on one or more established securities markets, as described in Regulations section 1.1472-1(c)(1)(i)
- E—A corporation that is a member of the same expanded affiliated group as a corporation described in Regulations section 1.1472-1(c)(1)(i)
- F—A dealer in securities, commodities, or derivative financial instruments (including notional principal contracts, futures, forwards, and options) that is registered as such under the laws of the United States or any state
- G—A real estate investment trust
- H—A regulated investment company as defined in section 851 or an entity registered at all times during the tax year under the Investment Company Act of 1940
- I—A common trust fund as defined in section 584(a)
- J—A bank as defined in section 581
- K—A broker
- L—A trust exempt from tax under section 664 or described in section 4947(a)(1)
- M—A tax exempt trust under a section 403(b) plan or section 457(g) plan

Note. You may wish to consult with the financial institution requesting this form to determine whether the FATCA code and/or exempt payee code should be completed.

Line 5

Enter your address (number, street, and apartment or suite number). This is where the requester of this Form W-9 will mail your information returns.

Line 6

Enter your city, state, and ZIP code.

Part I. Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. If you are a resident alien and you do not have and are not eligible to get an SSN, your TIN is your IRS individual taxpayer identification number (ITIN). Enter it in the social security number box. If you do not have an ITIN, see *How to get a TIN* below.

If you are a sole proprietor and you have an EIN, you may enter either your SSN or EIN. However, the IRS prefers that you use your SSN.

If you are a single-member LLC that is disregarded as an entity separate from its owner (see *Limited Liability Company (LLC)* on this page), enter the owner's SSN (or EIN, if the owner has one). Do not enter the disregarded entity's EIN. If the LLC is classified as a corporation or partnership, enter the entity's EIN.

Note. See the chart on page 4 for further clarification of name and TIN combinations.

How to get a TIN. If you do not have a TIN, apply for one immediately. To apply for an SSN, get Form SS-5, Application for a Social Security Card, from your local SSA office or get this form online at www.ssa.gov. You may also get this form by calling 1-800-772-1213. Use Form W-7, Application for IRS Individual Taxpayer Identification Number, to apply for an ITIN, or Form SS-4, Application for Employer Identification Number, to apply for an EIN. You can apply for an EIN online by accessing the IRS website at www.irs.gov/businesses and clicking on Employer Identification Number (EIN) under Starting a Business. You can get Forms W-7 and SS-4 from the IRS by visiting IRS.gov or by calling 1-800-TAX-FORM (1-800-829-3676).

If you are asked to complete Form W-9 but do not have a TIN, apply for a TIN and write "Applied For" in the space for the TIN, sign and date the form, and give it to the requester. For interest and dividend payments, and certain payments made with respect to readily tradable instruments, generally you will have 60 days to get a TIN and give it to the requester before you are subject to backup withholding on payments. The 60-day rule does not apply to other types of payments. You will be subject to backup withholding on all such payments until you provide your TIN to the requester.

Note. Entering "Applied For" means that you have already applied for a TIN or that you intend to apply for one soon.

Caution: A disregarded U.S. entity that has a foreign owner must use the appropriate Form W-8.

Part II. Certification

To establish to the withholding agent that you are a U.S. person, or resident alien, sign Form W-9. You may be requested to sign by the withholding agent even if items 1, 4, or 5 below indicate otherwise.

For a joint account, only the person whose TIN is shown in Part I should sign (when required). In the case of a disregarded entity, the person identified on line 1 must sign. Exempt payees, see *Exempt payee code* earlier.

Signature requirements. Complete the certification as indicated in items 1 through 5 below.

1. **Interest, dividend, and barter exchange accounts opened before 1984 and broker accounts considered active during 1983.** You must give your correct TIN, but you do not have to sign the certification.
2. **Interest, dividend, broker, and barter exchange accounts opened after 1983 and broker accounts considered inactive during 1983.** You must sign the certification or backup withholding will apply. If you are subject to backup withholding and you are merely providing your correct TIN to the requester, you must cross out item 2 in the certification before signing the form.
3. **Real estate transactions.** You must sign the certification. You may cross out item 2 of the certification.
4. **Other payments.** You must give your correct TIN, but you do not have to sign the certification unless you have been notified that you have previously given an incorrect TIN. "Other payments" include payments made in the course of the requester's trade or business for rents, royalties, goods (other than bills for merchandise), medical and health care services (including payments to corporations), payments to a nonemployee for services, payments made in settlement of payment card and third party network transactions, payments to certain fishing boat crew members and fishermen, and gross proceeds paid to attorneys (including payments to corporations).
5. **Mortgage interest paid by you, acquisition or abandonment of secured property, cancellation of debt, qualified tuition program payments (under section 529), IRA, Coverdell ESA, Archer MSA or HSA contributions or distributions, and pension distributions.** You must give your correct TIN, but you do not have to sign the certification.

What Name and Number To Give the Requester

For this type of account:	Give name and SSN of:
1. Individual	The individual
2. Two or more individuals (joint account)	The actual owner of the account or, if combined funds, the first individual on the account ¹
3. Custodian account of a minor (Uniform Gift to Minors Act)	The minor ²
4. a. The usual revocable savings trust (grantor is also trustee) b. So-called trust account that is not a legal or valid trust under state law	The grantor-trustee ¹ The actual owner ¹
5. Sole proprietorship or disregarded entity owned by an individual	The owner ³
6. Grantor trust filing under Optional Form 1099 Filing Method 1 (see Regulations section 1.671-4(b)(2)(i)(A))	The grantor ⁴
For this type of account:	Give name and EIN of:
7. Disregarded entity not owned by an individual	The owner
8. A valid trust, estate, or pension trust	Legal entity ⁴
9. Corporation or LLC electing corporate status on Form 8832 or Form 2553	The corporation
10. Association, club, religious, charitable, educational, or other tax-exempt organization	The organization
11. Partnership or multi-member LLC	The partnership
12. A broker or registered nominee	The broker or nominee
13. Account with the Department of Agriculture in the name of a public entity (such as a state or local government, school district, or prison) that receives agricultural program payments	The public entity
14. Grantor trust filing under the Form 1041 Filing Method or the Optional Form 1099 Filing Method 2 (see Regulations section 1.671-4(b)(2)(i)(B))	The trust

¹ List first and circle the name of the person whose number you furnish. If only one person on a joint account has an SSN, that person's number must be furnished.

² Circle the minor's name and furnish the minor's SSN.

³ You must show your individual name and you may also enter your business or DBA name on the "Business name/disregarded entity" name line. You may use either your SSN or EIN (if you have one), but the IRS encourages you to use your SSN.

⁴ List first and circle the name of the trust, estate, or pension trust. (Do not furnish the TIN of the personal representative or trustee unless the legal entity itself is not designated in the account title.) Also see *Special rules for partnerships* on page 2.

*Note. Grantor also must provide a Form W-9 to trustee of trust.

Note. If no name is circled when more than one name is listed, the number will be considered to be that of the first name listed.

Secure Your Tax Records from Identity Theft

Identity theft occurs when someone uses your personal information such as your name, SSN, or other identifying information, without your permission, to commit fraud or other crimes. An identity thief may use your SSN to get a job or may file a tax return using your SSN to receive a refund.

To reduce your risk:

- Protect your SSN,
- Ensure your employer is protecting your SSN, and
- Be careful when choosing a tax preparer.

If your tax records are affected by identity theft and you receive a notice from the IRS, respond right away to the name and phone number printed on the IRS notice or letter.

If your tax records are not currently affected by identity theft but you think you are at risk due to a lost or stolen purse or wallet, questionable credit card activity or credit report, contact the IRS Identity Theft Hotline at 1-800-908-4490 or submit Form 14039.

For more information, see Publication 4535, Identity Theft Prevention and Victim Assistance.

Victims of identity theft who are experiencing economic harm or a system problem, or are seeking help in resolving tax problems that have not been resolved through normal channels, may be eligible for Taxpayer Advocate Service (TAS) assistance. You can reach TAS by calling the TAS toll-free case intake line at 1-877-777-4778 or TTY/TDD 1-800-829-4059.

Protect yourself from suspicious emails or phishing schemes. Phishing is the creation and use of email and websites designed to mimic legitimate business emails and websites. The most common act is sending an email to a user falsely claiming to be an established legitimate enterprise in an attempt to scam the user into surrendering private information that will be used for identity theft.

The IRS does not initiate contacts with taxpayers via emails. Also, the IRS does not request personal detailed information through email or ask taxpayers for the PIN numbers, passwords, or similar secret access information for their credit card, bank, or other financial accounts.

If you receive an unsolicited email claiming to be from the IRS, forward this message to phishing@irs.gov. You may also report misuse of the IRS name, logo, or other IRS property to the Treasury Inspector General for Tax Administration (TIGTA) at 1-800-366-4484. You can forward suspicious emails to the Federal Trade Commission at: spam@uce.gov or contact them at www.ftc.gov/idtheft or 1-877-IDTHEFT (1-877-438-4338).

Visit IRS.gov to learn more about identity theft and how to reduce your risk.

Privacy Act Notice

Section 6109 of the Internal Revenue Code requires you to provide your correct TIN to persons (including federal agencies) who are required to file information returns with the IRS to report interest, dividends, or certain other income paid to you; mortgage interest you paid; the acquisition or abandonment of secured property; the cancellation of debt; or contributions you made to an IRA, Archer MSA, or HSA. The person collecting this form uses the information on the form to file information returns with the IRS, reporting the above information. Routine uses of this information include giving it to the Department of Justice for civil and criminal litigation and to cities, states, the District of Columbia, and U.S. commonwealths and possessions for use in administering their laws. The information also may be disclosed to other countries under a treaty, to federal and state agencies to enforce civil and criminal laws, or to federal law enforcement and intelligence agencies to combat terrorism. You must provide your TIN whether or not you are required to file a tax return. Under section 3406, payers must generally withhold a percentage of taxable interest, dividend, and certain other payments to a payee who does not give a TIN to the payer. Certain penalties may also apply for providing false or fraudulent information.

2015 Withholding Exemption Certificate

590

The payee completes this form and submits it to the withholding agent.

Withholding Agent (Type or print)

Name _____

Payee

Name _____

SSN or ITIN FEIN CA Corp no. CA SOS file no.

Address (apt./ste., room, PO Box, or PMB no.) _____

City (If you have a foreign address, see instructions.) _____

State _____ ZIP Code _____

Exemption Reason

Check only one reason box below that applies to the payee.

By checking the appropriate box below, the Payee certifies the reason for the exemption from the California income tax withholding requirements on payment(s) made to the entity or individual.

- Individuals — Certification of Residency:**
I am a resident of California and I reside at the address shown above. If I become a nonresident at any time, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Corporations:**
The corporation has a permanent place of business in California at the address shown above or is qualified through the California Secretary of State (SOS) to do business in California. The corporation will file a California tax return. If this corporation ceases to have a permanent place of business in California or ceases to do any of the above, I will promptly notify the withholding agent. See instructions for General Information D, Definitions.
- Partnerships or Limited Liability Companies (LLCs):**
The partnership or LLC has a permanent place of business in California at the address shown above or is registered with the California SOS, and is subject to the laws of California. The partnership or LLC will file a California tax return. If the partnership or LLC ceases to do any of the above, I will promptly inform the withholding agent. For withholding purposes, a limited liability partnership (LLP) is treated like any other partnership.
- Tax-Exempt Entities:**
The entity is exempt from tax under California Revenue and Taxation Code (R&TC) Section 23701 _____ (insert letter) or Internal Revenue Code Section 501(c) _____ (insert number). If this entity ceases to be exempt from tax, I will promptly notify the withholding agent. Individuals cannot be tax-exempt entities.
- Insurance Companies, Individual Retirement Arrangements (IRAs), or Qualified Pension/Profit Sharing Plans:**
The entity is an insurance company, IRA, or a federally qualified pension or profit-sharing plan.
- California Trusts:**
At least one trustee and one noncontingent beneficiary of the above-named trust is a California resident. The trust will file a California fiduciary tax return. If the trustee or noncontingent beneficiary becomes a nonresident at any time, I will promptly notify the withholding agent.
- Estates — Certification of Residency of Deceased Person:**
I am the executor of the above-named person's estate or trust. The decedent was a California resident at the time of death. The estate will file a California fiduciary tax return.
- Nonmilitary Spouse of a Military Servicemember:**
I am a nonmilitary spouse of a military servicemember and I meet the Military Spouse Residency Relief Act (MSRRA) requirements. See instructions for General Information E, MSRRA.

CERTIFICATE OF PAYEE: Payee must complete and sign below.

Under penalties of perjury, I hereby certify that the information provided in this document is, to the best of my knowledge, true and correct. If conditions change, I will promptly notify the withholding agent.

Payee's name and title (type or print) _____ Telephone (____) _____

Payee's signature ► _____ Date _____

2015 Instructions for Form 590

Withholding Exemption Certificate

References in these instructions are to the California Revenue and Taxation Code (R&TC).

General Information

Registered Domestic Partners (RDP) – For purposes of California income tax, references to a spouse, husband, or wife also refer to a Registered Domestic Partner (RDP) unless otherwise specified. For more information on RDPs, get FTB Pub. 737, Tax Information for Registered Domestic Partners.

A Purpose

Use Form 590, Withholding Exemption Certificate, to certify an exemption from nonresident withholding.

Form 590 does not apply to payments of backup withholding. For information on California backup withholding, go to ftb.ca.gov and search for **backup withholding**.

Form 590 does not apply to payments for wages to employees. Wage withholding is administered by the California Employment Development Department (EDD). For more information, go to edd.ca.gov or call 888.745.3886.

Do not use Form 590 to certify an exemption from withholding if you are a **Seller of California real estate**. Sellers of California real estate use Form 593-C, Real Estate Withholding Certificate, to claim an exemption from real estate withholding.

The following are excluded from withholding and completing this form:

- The United States and any of its agencies or instrumentalities.
- A state, a possession of the United States, the District of Columbia, or any of its political subdivisions or instrumentalities.
- A foreign government or any of its political subdivisions, agencies, or instrumentalities.

B Income Subject to Withholding

California Revenue and Taxation Code (R&TC) Section 18662 requires withholding of income or franchise tax on payments of California source income made to nonresidents of California.

Withholding is required on the following, but is not limited to:

- Payments to nonresidents for services rendered in California.
- Distributions of California source income made to domestic nonresident partners, members, and S corporation shareholders and allocations of California source income made to foreign partners and members.
- Payments to nonresidents for rents if the payments are made in the course of the withholding agent's business.

- Payments to nonresidents for royalties from activities sourced to California.
- Distributions of California source income to nonresident beneficiaries from an estate or trust.
- Endorsement payments received for services performed in California.
- Prizes and winnings received by nonresidents for contests in California.

However, withholding is optional if the total payments of California source income are \$1,500 or less during the calendar year.

For more information on withholding get FTB Pub. 1017, Resident and Nonresident Withholding Guidelines. To get a withholding publication, see Additional Information.

C Who Certifies this Form

Form 590 is certified by the payee. California residents or entities exempt from the withholding requirement should complete Form 590 and submit it to the withholding agent before payment is made. The withholding agent is then relieved of the withholding requirements if the agent relies in good faith on a completed and signed Form 590 unless notified by the Franchise Tax Board (FTB) that the form should not be relied upon.

An incomplete certificate is invalid and the withholding agent should not accept it. If the withholding agent receives an incomplete certificate, the withholding agent is required to withhold tax on payments made to the payee until a valid certificate is received. In lieu of a completed certificate on the preprinted form, the withholding agent may accept as a substitute certificate a letter from the payee explaining why the payee is not subject to withholding. The letter must contain all the information required on the certificate in similar language, including the under penalty of perjury statement and the payee's taxpayer identification number. The withholding agent must retain a copy of the certificate or substitute for at least four years after the last payment to which the certificate applies, and provide it upon request to the FTB.

For example, if an entertainer (or the entertainer's business entity) is paid for a performance, the entertainer's information must be provided. **Do not** submit the entertainer's agent or promoter information.

The grantor of a grantor trust shall be treated as the payee for withholding purposes. Therefore, if the payee is a grantor trust and one or more of the grantors is a nonresident, withholding is required. If all of the grantors on the trust are residents, no withholding is required. Resident grantors can check the box on Form 590 labeled "Individuals — Certification of Residency."

D Definitions

For California non-wage withholding purposes, **nonresident** includes all of the following:

- Individuals who are not residents of California.
- Corporations not qualified through the California Secretary of State (CA SOS) to do business in California or having no permanent place of business in California.
- Partnerships or limited liability companies (LLCs) with no permanent place of business in California.
- Any trust without a resident grantor, beneficiary, or trustee, or estates where the decedent was not a California resident.

Foreign refers to non-U.S.

For more information about determining resident status, get FTB Pub. 1031, Guidelines for Determining Resident Status. Military servicemembers have special rules for residency. For more information, get FTB Pub. 1032, Tax Information for Military Personnel.

Permanent Place of Business:

A corporation has a permanent place of business in California if it is organized and existing under the laws of California or if it is a foreign corporation qualified to transact intrastate business by the CA SOS. A corporation that has not qualified to transact intrastate business (e.g., a corporation engaged exclusively in interstate commerce) will be considered as having a permanent place of business in California only if it maintains a permanent office in California that is permanently staffed by its employees.

E Military Spouse Residency Relief Act (MSRRA)

Generally, for tax purposes you are considered to maintain your existing residence or domicile. If a military servicemember and nonmilitary spouse have the same state of domicile, the MSRRA provides:

- A spouse shall not be deemed to have lost a residence or domicile in any state solely by reason of being absent to be with the servicemember serving in compliance with military orders.
- A spouse shall not be deemed to have acquired a residence or domicile in any other state solely by reason of being there to be with the servicemember serving in compliance with military orders.

Domicile is defined as the one place:

- Where you maintain a true, fixed, and permanent home.
- To which you intend to return whenever you are absent.

A military servicemember's nonmilitary spouse is considered a nonresident for tax purposes if the servicemember and spouse have the same domicile outside of California and the spouse is in California solely to be with the servicemember who is serving in compliance with Permanent Change of Station orders.

California may require nonmilitary spouses of military servicemembers to provide proof that they meet the criteria for California personal income tax exemption as set forth in the MSRRA.

Income of a military servicemember's nonmilitary spouse for services performed in California is not California source income subject to state tax if the spouse is in California to be with the servicemember serving in compliance with military orders, and the servicemember and spouse have the same domicile in a state other than California.

For additional information or assistance in determining whether the applicant meets the MSRRA requirements, get FTB Pub. 1032.

Specific Instructions

Payee Instructions

Enter the withholding agent's name.

Enter the payee's information, including the taxpayer identification number (TIN) and check the appropriate TIN box.

You must provide an acceptable TIN as requested on this form. The following are acceptable TINs: social security number (SSN); individual taxpayer identification number (ITIN); federal employer identification number (FEIN); California corporation number (CA Corp no.); or CA SOS file number.

Private Mail Box (PMB) – Include the PMB in the address field. Write "PMB" first, then the box number. Example: 111 Main Street PMB 123.

Foreign Address – Enter the information in the following order: City, Country, Province/Region, and Postal Code. Follow the country's practice for entering the postal code. **Do not** abbreviate the country's name.

Check the box that reflects the reason why the payee is exempt from the California income tax withholding requirement.

Withholding Agent Instructions

Keep Form 590 for your records. **Do not** send this form to the FTB unless it has been specifically requested.

For more information, contact Withholding Services and Compliance, see Additional Information.

The payee must notify the withholding agent if any of the following situations occur:

- The individual payee becomes a nonresident.
- The corporation ceases to have a permanent place of business in California or ceases to be qualified to do business in California.
- The partnership ceases to have a permanent place of business in California.
- The LLC ceases to have a permanent place of business in California.
- The tax-exempt entity loses its tax-exempt status.

If any of these situations occur, then withholding may be required. For more information, get Form 592, Resident and Nonresident Withholding Statement, Form 592-B, Resident and Nonresident Withholding Tax Statement, and Form 592-V, Payment Voucher for Resident and Nonresident Withholding.

Additional Information

For additional information or to speak to a representative regarding this form, call the Withholding Services and Compliance telephone service at:

Telephone: **888.792.4900**
916.845.4900

Fax: 916.845.9512

OR write to:

WITHHOLDING SERVICES AND
COMPLIANCE MS F182
FRANCHISE TAX BOARD
PO BOX 942867
SACRAMENTO CA 94267-0651

You can download, view, and print California tax forms and publications at ftb.ca.gov.

OR to get forms by mail write to:

TAX FORMS REQUEST UNIT
FRANCHISE TAX BOARD
PO BOX 307
RANCHO CORDOVA CA 95741-0307

For all other questions unrelated to withholding or to access the TTY/TDD numbers, see the information below.

Internet and Telephone Assistance

Website: ftb.ca.gov
Telephone: 800.852.5711 from within the United States
916.845.6500 from outside the United States

TTY/TDD: 800.822.6268 for persons with hearing or speech impairments

Asistencia Por Internet y Teléfono

Sitio web: ftb.ca.gov
Teléfono: 800.852.5711 dentro de los Estados Unidos
916.845.6500 fuera de los Estados Unidos

TTY/TDD: 800.822.6268 para personas con discapacidades auditivas o del habla

DISADVANTAGED BUSINESS CERTIFICATION

Federal guidance for utilization of disadvantaged business enterprises allows a vendor to be deemed a small business enterprise (SBE), minority business enterprise (MBE) or women business enterprise (WBE) if it meets the criteria below.

- is certified by the Small Business Administration or
- is certified by a state or federal agency or
- is an independent MBE(s) or WBE(s) business concern which is at least 51 percent owned and controlled by minority group member(s) who are citizens of the United States.

Statements of certification:

As a prime contractor to the SCAQMD, _____ (name of business) will engage in good faith efforts to achieve the fair share in accordance with 40 CFR Section 33.301, and will follow the six affirmative steps listed below **for contracts or purchase orders funded in whole or in part by federal grants and contracts.**

1. Place qualified SBEs, MBEs, and WBEs on solicitation lists.
2. Assure that SBEs, MBEs, and WBEs are solicited whenever possible.
3. When economically feasible, divide total requirements into small tasks or quantities to permit greater participation by SBEs, MBEs, and WBEs.
4. Establish delivery schedules, if possible, to encourage participation by SBEs, MBEs, and WBEs.
5. Use services of Small Business Administration, Minority Business Development Agency of the Department of Commerce, and/or any agency authorized as a clearinghouse for SBEs, MBEs, and WBEs.
6. If subcontracts are to be let, take the above affirmative steps.

Self-Certification Verification: Also for use in awarding additional points, as applicable, in accordance with SCAQMD Procurement Policy and Procedure:

Check all that apply:

- | | |
|---|--|
| <input type="checkbox"/> Small Business Enterprise/Small Business Joint Venture | <input type="checkbox"/> Women-owned Business Enterprise |
| <input type="checkbox"/> Local business | <input type="checkbox"/> Disabled Veteran-owned Business Enterprise/DVBE Joint Venture |
| <input type="checkbox"/> Minority-owned Business Enterprise | |

Percent of ownership: _____ %

Name of Qualifying Owner(s): _____

State of California Public Works Contractor Registration No. _____ MUST BE INCLUDED IF BID PROPOSAL IS FOR PUBLIC WORKS PROJECT.

I, the undersigned, hereby declare that to the best of my knowledge the above information is accurate. Upon penalty of perjury, I certify information submitted is factual.

A. NAME

TITLE

B. TELEPHONE NUMBER

DATE

Definitions

Disabled Veteran-Owned Business Enterprise means a business that meets all of the following criteria:

- is a sole proprietorship or partnership of which is at least 51 percent owned by one or more disabled veterans, or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more disabled veterans; a subsidiary which is wholly owned by a parent corporation but only if at least 51 percent of the voting stock of the parent corporation is owned by one or more disabled veterans; or a joint venture in which at least 51 percent of the joint venture's management and control and earnings are held by one or more disabled veterans.
- the management and control of the daily business operations are by one or more disabled veterans. The disabled veterans who exercise management and control are not required to be the same disabled veterans as the owners of the business.
- is a sole proprietorship, corporation, partnership, or joint venture with its primary headquarters office located in the United States and which is not a branch or subsidiary of a foreign corporation, firm, or other foreign-based business.

Joint Venture means that one party to the joint venture is a DVBE and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that DVBE will receive at least 51 percent of the project dollars.

Local Business means a business that meets all of the following criteria:

- has an ongoing business within the boundary of the SCAQMD at the time of bid application.
- performs 90 percent of the work within SCAQMD's jurisdiction.

Minority-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more minority persons or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more minority persons.
- is a business whose management and daily business operations are controlled or owned by one or more minority person.
- is a business which is a sole proprietorship, corporation, partnership, joint venture, an association, or a cooperative with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.

"Minority" person means a Black American, Hispanic American, Native American (including American Indian, Eskimo, Aleut, and Native Hawaiian), Asian-Indian American (including a person whose origins are from India, Pakistan, or Bangladesh), Asian-Pacific American (including a person whose origins are from Japan, China, the Philippines, Vietnam, Korea, Samoa, Guam, the United States Trust Territories of the Pacific, Northern Marianas, Laos, Cambodia, or Taiwan).

Small Business Enterprise means a business that meets the following criteria:

- a. 1) an independently owned and operated business; 2) not dominant in its field of operation; 3) together with affiliates is either:
 - A service, construction, or non-manufacturer with 100 or fewer employees, and average annual gross receipts of ten million dollars (\$10,000,000) or less over the previous three years, or
 - A manufacturer with 100 or fewer employees.
- b. Manufacturer means a business that is both of the following:
 - 1) Primarily engaged in the chemical or mechanical transformation of raw materials or processed substances into new products.
 - 2) Classified between Codes 311000 to 339000, inclusive, of the North American Industrial Classification System (NAICS) Manual published by the United States Office of Management and Budget, 2007 edition.

Small Business Joint Venture means that one party to the joint venture is a Small Business and owns at least 51 percent of the joint venture. In the case of a joint venture formed for a single project this means that the Small Business will receive at least 51 percent of the project dollars.

Women-Owned Business Enterprise means a business that meets all of the following criteria:

- is at least 51 percent owned by one or more women or in the case of any business whose stock is publicly held, at least 51 percent of the stock is owned by one or more women.
- is a business whose management and daily business operations are controlled or owned by one or more women.
- is a business which is a sole proprietorship, corporation, partnership, or a joint venture, with its primary headquarters office located in the United States, which is not a branch or subsidiary of a foreign corporation, foreign firm, or other foreign business.



CAMPAIGN CONTRIBUTIONS DISCLOSURE

In accordance with California law, bidders and contracting parties are required to disclose, at the time the application is filed, information relating to any campaign contributions made to Board Members or members/alternates of the MSRC, including: the name of the party making the contribution (which includes any parent, subsidiary or otherwise related business entity, as defined below), the amount of the contribution, and the date the contribution was made. 2 C.C.R. §18438.8(b).

California law prohibits a party, or an agent, from making campaign contributions to SCAQMD Governing Board Members or members/alternates of the Mobile Source Air Pollution Reduction Review Committee (MSRC) of more than \$250 while their contract or permit is pending before the SCAQMD; and further prohibits a campaign contribution from being made for three (3) months following the date of the final decision by the Governing Board or the MSRC on a donor's contract or permit. Gov't Code §84308(d). For purposes of reaching the \$250 limit, the campaign contributions of the bidder or contractor plus contributions by its parents, affiliates, and related companies of the contractor or bidder are added together. 2 C.C.R. §18438.5.

In addition, Board Members or members/alternates of the MSRC must abstain from voting on a contract or permit if they have received a campaign contribution from a party or participant to the proceeding, or agent, totaling more than \$250 in the 12-month period prior to the consideration of the item by the Governing Board or the MSRC. Gov't Code §84308(c).

The list of current SCAQMD Governing Board Members can be found at the SCAQMD website (www.aqmd.gov). The list of current MSRC members/alternates can be found at the MSRC website (<http://www.cleantransportationfunding.org>).

SECTION I.

Contractor (Legal Name): _____

<input type="checkbox"/> DBA, Name _____, County Filed in _____ <input type="checkbox"/> Corporation, ID No. _____ <input type="checkbox"/> LLC/LLP, ID No. _____

List any parent, subsidiaries, or otherwise affiliated business entities of Contractor:
(See definition below).

SECTION II.

Has Contractor and/or any parent, subsidiary, or affiliated company, or agent thereof, made a campaign contribution(s) totaling \$250 or more in the aggregate to a current member of the South Coast Air Quality Management Governing Board or member/alternate of the MSRC in the 12 months preceding the date of execution of this disclosure?

Yes No **If YES, complete Section II below and then sign and date the form. If NO, sign and date below. Include this form with your submittal.**

Campaign Contributions Disclosure, *continued*:

Name of Contributor _____

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor _____

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor _____

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

Name of Contributor _____

_____	_____	_____
Governing Board Member or MSRC Member/Alternate	Amount of Contribution	Date of Contribution

I declare the foregoing disclosures to be true and correct.

By: _____

Title: _____

Date: _____

DEFINITIONS

Parent, Subsidiary, or Otherwise Related Business Entity (2 Cal. Code of Regs., §18703.1(d).)

- (1) Parent subsidiary. A parent subsidiary relationship exists when one corporation directly or indirectly owns shares possessing more than 50 percent of the voting power of another corporation.**
- (2) Otherwise related business entity. Business entities, including corporations, partnerships, joint ventures and any other organizations and enterprises operated for profit, which do not have a parent subsidiary relationship are otherwise related if any one of the following three tests is met:**
 - (A) One business entity has a controlling ownership interest in the other business entity.**
 - (B) There is shared management and control between the entities. In determining whether there is shared management and control, consideration should be given to the following factors:**
 - (i) The same person or substantially the same person owns and manages the two entities;**
 - (ii) There are common or commingled funds or assets;**
 - (iii) The business entities share the use of the same offices or employees, or otherwise share activities, resources or personnel on a regular basis;**
 - (iv) There is otherwise a regular and close working relationship between the entities; or**
 - (C) A controlling owner (50% or greater interest as a shareholder or as a general partner) in one entity also is a controlling owner in the other entity.**

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 12

PROPOSAL: Legislative and Public Affairs Report

SYNOPSIS: This report highlights the March 2015 outreach activities of Legislative and Public Affairs, which include: an Environmental Justice Update, Community Events/Public Meetings, Business Assistance, and Outreach to Business and Federal, State, and Local Government.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

LBS:DJA:MC:DM:jns

BACKGROUND

This report summarizes the activities of Legislative and Public Affairs for March 2015. The report includes four major areas: Environmental Justice Update; Community Events/Public Meetings (including the Speakers Bureau/Visitor Services, Communications Center, and Public Information Center); Business Assistance; and Outreach to Business and Federal, State and Local Governments.

ENVIRONMENTAL JUSTICE UPDATE

The following are key environmental justice-related activities in which SCAQMD staff participated during the month of March. These events involve communities that may suffer disproportionately from adverse air quality impacts.

March 4

- Staff assisted with the Exide Community Advisory Committee meeting held at Resurrection Church in Boyle Heights and provided updates on Rule 1420.1 as well as the current status of Exide Technologies, Inc.

March 18

- Staff attended the Riverside County Health Coalition's Healthy City Resolution Workgroup meeting in Riverside and provided an update on the upcoming American Lung Association Lung Force Expo on Saturday, May 2 in Ontario, for which SCAQMD is a sponsor.

March 19

- Staff participated in the Moreno Valley/Perris Transportation NOW Chapter meeting in Perris and provided an update on the federal grant funding opportunities for diesel trucks and school buses provided by SCAQMD, as well as the grand opening of SCAQMD's Hydrogen Fueling station.

March 26

- Staff assisted with an SCAQMD Public Workshop Group meeting on Rule 1148.1, related to oil and gas wells in Montebello and provided an overview of the rule as well as accepted public comments from attendees.

COMMUNITY EVENTS/PUBLIC MEETINGS

Each year, thousands of residents engage in valuable information exchanges through events and meetings that SCAQMD sponsors either alone or in partnership with others. Attendees typically receive the following information:

- Tips on reducing their exposure to smog and its health effects;
- Clean air technologies and their deployment;
- Invitations or notices of conferences, seminars, workshops and other public events;
- Ways to participate in SCAQMD's rule and policy development; and
- Assistance in resolving air pollution-related problems.

SCAQMD staff attended and/or provided information and updates at the following events:

March 5

- SCAQMD's Public Workshop & CEQA Scoping meeting on Proposed Revised Rule 415 (Odors from Rendering Facilities) at Barstow Park, Commerce.

March 7

- Chino Youth Museum's "Dairy Aire 5K Run" at Ayala Park, Chino.

March 14

- 36th Annual Los Angeles Environmental Education Fair, Los Angeles County Arboretum, Arcadia.

March 20

- 6th Annual Auto Club Speedway – STEM Day Event, Fontana Speedway.

March 25-26

- Orange County Children's Water Festival, University of California, Irvine.

March 28

- SCAQMD's Cesar Chavez Day of Remembrance Event, University of Southern California, Los Angeles.
- 13th Annual Chino Corn Feed Run, Downtown Chino.

March 31

- Staff assisted with SCAQMD public meetings in San Bernardino and Riverside; and provided information on the draft revised Office of Environmental Health Hazards Assessments (OEHHA) risk guidelines and possible effects on the implementation of the AB 2588 Toxic Hot Spot program.

SPEAKERS BUREAU/VISITOR SERVICES

SCAQMD regularly receives requests for staff to speak on air quality-related issues from a wide variety of organizations, such as trade associations, chambers of commerce, community-based groups, schools, hospitals and health-based organizations. SCAQMD also hosts visitors from around the world who meet with staff on a wide range of air quality issues.

March 18

- Staff spoke to 40 members of the Palm Springs Rotary Club and provided them with an overview on the agency, air quality, and information on the CPV Sentinel Energy Project, a local natural gas-powered electric generation facility in Desert Hot Springs.

March 27

- Fifty students from the Environmental Charter High School in Lawndale visited SCAQMD headquarters where they received an overview on the agency, air quality, and toured the laboratory.

March 31

- Twelve students from Hope International University, Los Angeles, visited SCAQMD headquarters where they received an overview on the agency, air quality, and environmental-related social issues.
- Two representative from the City of Ontario visited SCAQMD headquarters where they received an overview on the agency, air quality, and toured the laboratory.

COMMUNICATION CENTER STATISTICS

The Communication Center handles calls on the SCAQMD main line, 1-800-CUT-SMOG[®] line, the Spanish line, and after hours calls to each of those lines. Calls received in the month of March 2015 were:

Calls to SCAQMD's Main Line and the 1-800-CUT-SMOG [®] Line	3,916
Calls to SCAQMD's Spanish-language Line	<u>61</u>
Total Calls	3,977

PUBLIC INFORMATION CENTER STATISTICS

The Public Information Center (PIC) handles phone calls and walk-in requests for general information. Information for the month of March 2015 is summarized below:

Calls Received by PIC Staff	155
<u>Calls to Automated System</u>	<u>922</u>
Total Calls	1,077
Visitor Transactions	174

BUSINESS ASSISTANCE

SCAQMD notifies local businesses of proposed regulations so they can participate in the agency's rule development process. SCAQMD also works with other agencies and governments to identify efficient, cost-effective ways to reduce air pollution and shares that information broadly. Staff provides personalized assistance to small businesses

both over the telephone and via on-site consultation. The information is summarized below:

- Conducted four free on-site consultations
- Provided permit application assistance to 181 companies
- Issued 33 clearance letters

Types of businesses assisted

Auto Body Shops	Auto Repair Shops	Metal Processing Facilities
Dry Cleaners	Printing Facilities	Furniture Manufacturers
Gas Stations	Aerospace Manufacturers	Construction & Architecture
Restaurants		

OUTREACH TO COMMUNITY GROUPS AND FEDERAL, STATE, AND LOCAL GOVERNMENTS

Field visits and/or communications were conducted with elected officials or staff from the following cities:

Anaheim	Irvine	Murrieta
Alhambra	Irwindale	Paramount
Aliso Viejo	Jurupa Valley	Pasadena
Arcadia	La Canada Flintridge	Placentia
Banning	La Palma	Perris
Bell	Lake Elsinore	Rancho Santa Margarita
Bell Gardens	Lake Forest	Riverside
Beaumont	Laguna Niguel	Rosemead
Brea	Laguna Woods	San Clemente
Buena Park	Loma Linda	Santa Clarita
Bradbury	Los Alamitos	San Gabriel
Burbank	Long Beach	San Marino
Commerce	Los Angeles	Sierra Madre
Cudahy	Maywood	South Gate
Culver City	Montebello	South Pasadena
Duarte	Monrovia	Temecula
Fontana	Moreno Valley	Temple City
Hemet	Monterey Park	Westminster
Huntington Beach	Mission Viejo	

Visits and/or communications were conducted with elected officials or staff from the following State and Federal Offices:

- U.S. Senator Barbara Boxer
- U.S. Congressman Pete Aguilar
- U.S. Congresswoman Lucille Roybal-Allard
- U.S. Congressman Ken Calvert
- U.S. Congresswoman Judy Chu
- U.S. Congresswoman Grace Napolitano
- U.S. Congressman Ed Royce
- U.S. Congressman Mark Takano
- State Senator Joel Anderson
- State Senator Ed Hernandez
- State Senator Ricardo Lara
- State Senator Mike Morrell
- State Senator Fran Pavley
- State Senator Richard Roth
- State Senator Jeff Stone
- Assembly Member Chris Holden
- Assembly Member Chad Mayes
- Assembly Member Jose Medina
- Assembly Member Melissa Melendez
- Assembly Member Marc Steinorth

Staff represented SCAQMD and/or provided a presentation to the following governments and business organizations:

Anaheim Chamber of Commerce
Arcadia Chamber of Commerce
Banning Chamber of Commerce
Beaumont Chamber of Commerce
Beverly Hills Chamber of Commerce
California League of Cities, Orange County Division
Corona Chamber of Commerce
Gateway Cities Council of Governments
Greater Riverside Chamber of Commerce
Hemet/San Jacinto Chamber of Commerce
Irwindale Chamber of Commerce
Los Virgenes-Malibu Council of Governments
Los Angeles Area Chamber of Commerce
Los Angeles Council Economic Development Corporation
Los Angeles County Metropolitan Transportation Authority

Moreno Valley Chamber of Commerce
Murrieta Chamber of Commerce
Omnitrans
Riverside County Transportation Commission
Riverside Transit Agency
San Bernardino Associated Governments
San Bernardino Chamber of Commerce
San Gabriel Valley Economic Partnership
San Gabriel Valley Coalition of Chambers of Commerce
San Gabriel Valley Council of Governments
Southern California Gas Company
South Bay Cities Council of Governments
South Pasadena Chamber of Commerce
Western Riverside Council of Governments
Western Riverside Transportation NOW (RTA)

- Greater Riverside Chapter, Riverside
- Hemet/San Jacinto Chapter, Hemet
- Moreno Valley/Perris Chapter
- San Gorgonio Pass Chapter, Beaumont
- Southwest Chapter, Lake Elsinore

Staff represented SCAQMD and/or provided a presentation to the following community groups and organizations:

American Cancer Society, Los Angeles
American Lung Association, Inland Counties
Angelus Plaza (Senior Activity Center), Los Angeles
Boyle Heights Senior Citizen Center
Carson Community Center
Californians for Affordable & Reliable Energy
Claude Pepper Senior Citizen Center, Los Angeles
Climate Resolve, Los Angeles
Coronado High School
Coalition for a Safe Environment, Wilmington
El Sereno Senior Citizen Center, Los Angeles
Gardena Senior Community Center
Gage Middle School, Huntington Park
Green LA Coalition
Hawthorne Senior Center
Highland Park Senior Citizen Center
Inglewood Senior Center
International Institute of Los Angeles
Jet Propulsion Laboratory, California Institute of Technology

Lawndale Senior Center
La Puente High School
Labor Council for Latin American Advancement
Lincoln Heights Senior Citizen Center
Los Angeles County Office of Education
Los Angeles Sustainability Collaborative
Los Angeles Unified School District
Mexican American Legal Defense and Educational Fund Organization
Monterey Park Environmental Commission
Pasadena Neighborhood Connections
Richard Merkin Middle School, Los Angeles
Riverside County Health Coalition
San Bernardino County Department of Public Health
Society of Hispanic Professional Engineers
South Bay Environmental Services Center

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 13

REPORT: Hearing Board Report

SYNOPSIS: This reports the actions taken by the Hearing Board during the period of March 1 through March 31, 2015.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file this report.

Edward Camarena
Chairman of Hearing Board

SM

Two summaries are attached: **Rules From Which Variances and Orders for Abatement Were Requested in 2015** and **March 2015 Hearing Board Cases**.

The total number of appeals filed during the period March 1 to March 31, 2015 is 0; and total number of appeals filed during the period of January 1 to March 31, 2015 is 0.

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
# of HB Actions Involving Rules														
109														0
109(c)														0
109(c)(1)														0
201														0
201.1														0
202														0
202(a)		1												1
202(b)														0
202(c)														0
203			1											1
203(a)		1	1											2
203(b)		5	2	7										14
204														0
208														0
218(c)(1)(B)(i)				1										1
218.1														0
218.1(b)(4)(C)				1										1
218(b)(2)														0
218(c)(1)(A)														0
218(d)(1)(A)														0
218(d)(1)(B)														0
219														0
219(s)(2)		1												1
221(b)		1												1
221(c)														0
221(d)		1												1
222			1											1
222(d)(1)(C)														0
222(e)(1)														0
401														0
401(b)														0
401(b)(1)														0
401(b)(1)(A)														0
401(b)(1)(B)														0
402		1												1
403(d)(1)														0
403(d)(1)(A)														0
403(d)(2)														0
404														0
404(a)														0
405														0
405(a)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
# of HB Actions Involving Rules														
109														0
109(c)														0
109(c)(1)														0
201														0
201.1														0
202														0
202(a)		1												1
202(b)														0
202(c)														0
203			1											1
203(a)		1	1											2
203(b)		5	2	7										14
204														0
208														0
218(c)(1)(B)(i)				1										1
218.1														0
218.1(b)(4)(C)				1										1
218(b)(2)														0
218(c)(1)(A)														0
218(d)(1)(A)														0
218(d)(1)(B)														0
219														0
219(s)(2)		1												1
221(b)		1												1
221(c)														0
221(d)		1												1
222			1											1
222(d)(1)(C)														0
222(e)(1)														0
401														0
401(b)														0
401(b)(1)														0
401(b)(1)(A)														0
401(b)(1)(B)														0
402		1												1
403(d)(1)														0
403(d)(1)(A)														0
403(d)(2)														0
404														0
404(a)														0
405														0
405(a)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
405(b)														0
405(c)														0
407(a)														0
407(a)(1)														0
407(a)(2)(A)														0
410(d)														0
430(b)(3)(A)(iv)														0
431.1														0
431.1														0
431.1(c)(1)														0
431.1(c)(2)														0
431.1(c)(3)(C)														0
431.1(d)(1)														0
431.1(d)(1), Att A(1)														0
442														0
444														0
444(a)														0
444(c)														0
444(d)														0
461														0
461(c)(1)														0
461(c)(1)(A)														0
461(c)(1)(B)														0
461(c)(1)(C)														0
461(c)(1)(E)														0
461(c)(1)(F)(i)														0
461(c)(1)(F)(iv)														0
461(c)(1)(F)(v)														0
461(c)(1)(H)														0
461(c)(2)														0
461(c)(2)(A)														0
461(c)(2)(B)														0
461(c)(2)(C)														0
461(c)(3)														0
461(c)(3)(A)														0
461(c)(3)(B)														0
461(c)(3)(C)														0
461(c)(3)(D)(ii)														0
461(c)(3)(E)														0
461(c)(3)(H)														0
461(c)(3)(M)														0
461(c)(4)(B)														0
461(c)(4)(B)(ii)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
461(d)(5)(A)														0
461(e)(1)														0
461(e)(2)				1										1
461(e)(2)(A)														0
461(e)(2)(A)(i)														0
461(e)(2)(B)(i)														0
461(e)(2)(C)														0
461(e)(3)														0
461(e)(3)(A)														0
461(e)(3)(C)(i)(I)														0
461(e)(3)(D)														0
461(e)(3)(E)														0
461(e)(5)														0
461(e)(7)														0
462														0
462(c)(4)(B)(i)														0
462(c)(7)(A)(ii)														0
462(d)														0
462(d)(1)														0
462(d)(1)(A)														0
462(d)(1)(A)(i)														0
462(d)(1)(B)														0
462(d)(1)(C)														0
462(d)(1)(E)(ii)														0
462(d)(1)(F)														0
462(d)(1)(G)														0
462(d)(5)														0
462(e)(1)														0
462(e)(1)(E)														0
462(e)(1)(E)(ii)														0
462(e)(1)(E)(i)(II)														0
462(e)(2)(A)(i)														0
462(e)(4)														0
462(h)(1)														0
463														0
463(c)														0
463(c)(1)														0
463(c)(1)(A)(I)-(iv)														0
463(c)(1)(B)														0
463(c)(1)(C)														0
463(c)(1)(D)														0
463(c)(1)(E)														0
463(c)(2)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
463(c)(2)(B)														0
463(c)(2)(C)														0
463(c)(3)														0
463(c)(3)(A)														0
463(c)(3)(B)														0
463(c)(3)(C)														0
463(d)														0
463(d)(2)														0
463(e)(3)(C)														0
463(e)(4)														0
463(e)(5)(C)														0
464(b)(1)(A)														0
464(b)(2)														0
468														0
468(a)														0
468(b)														0
1102														0
1102(c)(2)														0
1102(c)(5)														0
1102(f)(1)														1
1105.1														0
1105.1(d)(1)(A)(i)														0
1105.1(d)(1)(A)(iii)														0
1106(c)(1)														0
1106.1(c)(1)														0
1106.1(c)(1)(A)														0
1107(c)(1)														0
1107(c)(2)														0
1107(c)(7)														0
1107														0
1110.1														0
1110.2			1											1
1110.2(c)(14)														0
1110.2(d)														0
1110.2(d)(1)(A)														0
1110.2(d)(1)(B)														0
1110.2(d)(1)(B)(ii)			1											1
1110.2(d)(1)(D)														0
1110.2(d)(1)(E)														0
1110.2(e)(1)(A)														0
1110.2(e)(1)(B)(i)(II)														0
1110.2(e)(1)(B)(i)(III)														0
1110.2(e)(4)(B)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1110.2(f)														0
1110.2(f)(1)(A)														0
1110.2(f)(1)(c)														0
1113(c)(2)														0
1113(d)(3)														0
1118(c)(4)														0
1118(c)(5)														0
1118(d)(1)(2)														0
1118(d)(1)(2)														0
1118(d)(2)														0
1118(d)(3)														0
1118(d)(4)(B)														0
1118(d)(5)(A)														0
1118(d)(5)(B)														0
1118(d)(10)														0
1118(d)(12)														0
1118(e)														0
1118(f)(1)(C)		1												1
1118(g)(3)														0
1118(g)(5)														0
1118(g)(5)(A)														0
1118(i)(5)(B)(i)														0
1118(i)(5)(B)(ii)														0
1118(j)(1)(A)(ii)														0
1118(j)(1)(B)(ii)														0
1118(j)(1)(C)														0
1121(c)(2)(C)														0
1121(c)(3)														0
1121(c)(6)														0
1121(c)(7)														0
1121(c)(8)														0
1121(e)(3)														0
1121(h)														0
1121(h)(1)														0
1121(h)(2)														0
1121(h)(3)														0
1122(c)(2)(A)														0
1122(c)(2)(E)														0
1122(d)(1)(A)														0
1122(d)(1)(B)														0
1122(d)(3)														0
1122(e)(2)(A)														0
1122(e)(2)(B)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1122(e)(2)(C)														0
1122(e)(2)(D)														0
1122(e)(3)														0
1122(e)(4)(A)														0
1122(e)(4)(B)														0
1122(g)(3)														0
1122(j)														0
1124														0
1124(c)(1)(A)														0
1124(c)(1)(E)														0
1124(c)(4)(A)														0
1125(c)(1)														0
1125(c)(1)(C)														0
1125(d)(1)														0
1128(c)(1)														0
1128(c)(2)														0
1130														0
1130(c)(1)														0
1130(c)(4)														0
1131														0
1131(d)														0
1132(d)(2)														0
1132(d)(3)														0
1133(d)(8)														0
1133.2(d)(8)														0
1134(c)														0
1134(c)(1)														0
1134(d)														0
1134(d)(1)														0
1134(d)(2)(B)(ii)														0
1134(f)														0
1134(g)(2)														0
1135(c)(3)														0
1135(c)(3)(B)														0
1135(c)(3)(C)														0
1135(c)(4)														0
1135(c)(4)(D)														0
1136														0
1136(c)(1)(A)(i)														0
1137(d)(2)														0
1145														0
1145(c)(1)														0
1145(c)(2)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1145(g)(2)														0
1145(h)(1)(E)														0
1146(c)(1)(A)				1										1
1146(c)(1)(G)			1											1
1146(c)(1)(I)				1										1
1146(c)(2)														0
1146(c)(2)(A)														0
1146(d)(8)														0
1146.1														0
1146.1(a)(2)														0
1146.1(a)(8)														0
1146.1(b)(3)														0
1146.1(c)(1)														0
1146.1(c)(2)														0
1146.1(d)(4)														0
1146.1(d)(6)														0
1146.1(e)(1)														0
1146.1(e)(1)(B)														0
1146.1(e)(2)														0
1146.2														0
1146.2(c)(1)		1												1
1146.2(c)(4)		1	1											2
1146.2(c)(5)		1												1
1146.2(e)														0
1147		1												1
1147(c)(1)														0
1147(c)(10)														0
1147(c)(14)(B)														0
1150.1(d)(1)(C)(i)		1												1
1150.1(d)(4)														0
1150.1(d)(5)														0
1150.1(d)(10)														0
1150.1(d)(11)														0
1150.1(d)(12)														0
1150.1(d)(13)														0
1150.1(d)(14)														0
1150.1(e)(1)														0
1150.1(e)(2)														0
1150.1(e)(3)														0
1150.1(e)(1)(B)(C)														0
1150.1(e)(1)(C)														0
1151.1(e)(2)(B)(C)														0
1150.1(e)(2)(C)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1150.1(e)(3)(B)														0
1150.1(e)(3)(B)(C)														0
1150.1(e)(3)(C)														0
1150.1(e)(4)														0
1150.1(e)(6)(A)(I)														0
1150.1(e)(6)(A)(ii)														0
1150.1(f)(1)(A)(iii)(I)														0
1150.1(f)(1)(H)(i)														0
1151														0
1151(c)(8)														0
1151(2)														0
1151(5)														0
1151(d)(1)														0
1151(e)(1)														0
1151(e)(2)														0
1151(f)(1)														0
1153(c)(1)														0
1153(c)(1)(B)														0
1156(d)(5)(C)(i)														0
1158														0
1158(d)(2)														0
1158(d)(5)														0
1158(d)(7)														0
1158(d)(7)(A)(ii)														0
1158(d)(10)														0
1164(c)(1)(B)														0
1164(c)(2)														0
1166(c)(2)														0
1166(c)(2)(F)														0
1166, Part 12				1										1
1168														0
1168(c)(1)														0
1169(c)(13)(ii)														0
1171														0
1171(c)														0
1171(c)(1)														0
1171(c)(1)(A)(i)														0
1171(c)(1)(b)(i)														0
1171(c)(4)														0
1171(c)(5)														0
1171(c)(5)(A)(i)														0
1171(c)(6)														0
1173														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1173(c)														0
1173(d)														0
1173(e)(1)														0
1173(f)(1)(B)														0
1173(g)														0
1175														0
1175(c)(2)														0
1175(c)(4)(B)														0
1175(c)(4)(B)(i)														0
1175(c)(4)(B)(ii)														0
1175(c)(4)(B)(ii)(I)														0
1175(b)(1) (C)														0
1175(d)(4)(ii)(II)														0
1176														0
1176(e)														0
1176(e)(1)														0
1176(e)(2)														0
1176(e)(2)(A)														0
1176(e)(2)(A)(ii)														0
1176(e)(2)(B)(v)														0
1176(f)(3)														0
1177(d)(2)(D)														0
1178(d)(1)(A)(xiii)														0
1178(d)(1)(A)(xiv)														0
1178(d)(1)(B)														0
1178(d)(1)(C)														0
1178(d)(3)(C)														0
1178(d)(3)(D)														0
1178(d)(3)(E)														0
1178(d)(4)(A)(i)														0
1178(g)														0
1186.1														0
1186.1														0
1189(c)(3)														0
1195														0
1195(d)(1)(D)														0
1303(a)														0
1303(a)(1)														0
1303(b)(1)														0
1401														0
1401(d)														0
1401(d)(1)(A)														0
1401(d)(1)(B)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1405(d)(3)(C)														0
1407(d)														0
1407(d)(1)														0
1407(d)(2)														0
1407(d)(5)		1												1
1407(f)(1)														0
1415(d)(3)														0
1418(d)(2)(A)														0
1420(d)(1)		1												1
1420.1(f)(3)														0
1420.1(g)(4)														0
1420.1(k)(13)(B)														0
1421(d)														0
1421(d)(1)(C)														0
1421(d)(1)(G)														0
1421(d)(3)(A)														0
1421(e)(2)(c)														0
1421(e)(1)(A)(vii)														0
1421(e)(3)(B)														0
1421(h)(1)(A)														0
1421(h)(1)(B)														0
1421(h)(1)(C)														0
1421(h)(1)(E)														0
1421(h)(3)														0
1421(i)(1)(C)														0
1425(d)(1)(A)														0
1469														0
1469(c)														0
1469(c)(8)														0
1469(c)(11)(A)														0
1469(c)(13)(ii)														0
1469(d)(5)														0
1469(e)(1)														0
1469(e)(7)														0
1469(g)(2)														0
1469(h)														0
1469(l)														0
1469(j)(4)(A)														0
1469(j)(4)(D)														0
1469(k)(3)(A)														0
1470														0
1470(c)(2)(C)(i)(I)														0
1470(c)(2)(C)(iv)														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
1470(c)(3)(B)(ii)														0
1470(c)(3)(C)(iii)														0
1470(c)(4)														0
1470(c)(4)(B)			1											1
1470(c)(5)														0
1470(d)(2)(B)														0
1470(e)(2)(A)														0
2004(c)(1)		3												3
2004(c)(1)(C)														0
2004(f)(1)				4										4
2004(f)(2)														0
2004(k)														0
2005														0
2009(b)(2)														0
2009(c)														0
2009(f)(1)														0
2009(f)(2)														0
2009.1														0
2009.1(c)														0
2009.1(f)(1)														0
2009.1(f)(2)														0
2009.1(f)(3)														0
2011														0
2011 Attachment C														0
2011(c)(2)														0
2011(c)(2)(A)														0
2011(c)(2)(B)														0
2011(c)(3)(A)														0
2011(e)(1)														0
2011(f)(3)														0
2011(g)														0
2011(g)(1)														0
2011(k)														0
2011(k) Appen. A, Chap. 2, except E & Attach C														0
2011(k) Appen. A, Chap. 2, Section A.3 a-c, A.5 and B. 1-4 and Appen. A, Chap. 2, Section C.2.a, c & d														0
2011, Table 2011-1, Appen. A, Chap. 2, Attach. C														0
2012 Chapter 2														0
2012 Attach. C, B.2.a														0
2012 Appen. A, Attach. C, Section B.2.				1										1
2012 Appen. A, Attach. C, Section B.2.a. & b.														0
2012 Appen. A														0
2012 Appen. A, Chap. 2														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
2012 Appen A, Chap. 2, Sec. A														0
2012 Appen A. Chap. 2. Sec. A1(a)														0
2012 Appen A, Chap. 2, Sec. B														0
2012, Appen. A, Protocol 2012, Chap. 2, B.5.														0
2012, Appen A, Chap. 2, B.5.a														0
2012, Appen A, Chap. 2, B.10														0
2012, Appen A, Chap. 2, B.11														0
2012, Appen A, Chap. 2, B.12														0
2012, Appen A, Chap. 2, B.17				1										1
2012, Appen A, Chap.2, B.18														0
2012, Appen A, Chap.2, B.20														0
2012, Chapter 2, E.2.b.i.														0
2012, Chapter 2, E.2.b.ii.														0
2012 Appen A, Chap. 4.A.4														0
2012(B)(5)(e)														0
2012(c)(2)(A)														0
2012(c)(2)(B)														0
2012(c)(3)														0
2012(c)(3)(A)														0
2012(c)(3)(B)														0
2012(c)(10)														0
2012(d)(2)														0
2012(d)(2)(A)														0
2012(d)(2)(D)														0
2012(f)(2)(A)				1										1
2012(g)(1)				1										1
2012(g)(3)														0
2012(g)(7)														0
2012(h)(3)														0
2012(h)(4)														0
2012(h)(5)														0
2012(h)(6)														0
2012(i)														0
2012(j)(1)														0
2012(j)(2)														0
2012, Protocol (Appen. A) Chap. 2, Part A.1.a														0
2012, Protocol (Appen. A) Chap. 2, Part B.4														0
2012, Protocol, (Appen A) Chap. 2, Part B.5.e														0
2012 Chapter 2, B.5.f														0
2012(m)														0
2012(m) Table 2012-1, and Appen. A, Chp 2, & Attachment C														0
2012(m) Appen. A, Attach. C														0
2012(m) Appen. A, Chap. 2, Sections 2.A.1 a-c, e.g,														0

Rules from which Variances and Order for Abatements were Requested in 2015

	2015	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total Actions
and B. 1-4 and Appendix A, Chapter 3, Section C.2 a, c & d														0
2012(m) Appen. A, Chap 3, Section (A)(6)														0
2012(m) Appen. A, Chap 5, Para G, Table 5B and Att. D														0
2202				1										1
3002				1										1
3002(c)														0
3002(c)(1)		3	1	3										7
3002(c)(2)														0
Regulation II														0
Regulation IX														0
Regulation IX, 40 CFR Part 60, Subpart J														0
Regulation XI														0
Regulation XIII														0
H&S 39152(b)														0
H&S 41510														0
H&S 41700		1												1
H&S 41701														0
H&S 93115.6(c)(2)(C)(1)														0
H&S 42303														0
Title 13 Code of Regulations §2452														0

Report of March 2015 Hearing Board Cases

Case Name and Case No.	Rules	Reason for Petition	District Position/ Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
1. Beta Offshore Case No. 5855-3 (S. Hanizavareh)	203(b) 2004(f)(1) 2012(f)(2)(A)	Backup engine serving offshore platform failed source test. Petitioner must operate engine to trouble shoot, repair and retest.	Not Opposed/Granted	Ex Parte EV granted commencing 3/19/15 and continuing for 30 days or until the EV hearing currently scheduled for 3/26/15, whichever comes first.	NOx: 23.52 lbs/day
2. Chevron Products Company Case No. 831-366 (N. Feldman)	203(b) 2004(f)(1) 3002(c)(1)	Additional time required by District to review public comment letters before issuing a modified Title V permit.	Not Opposed/Granted	MFCD/EXT granted commencing 3/31/15 and continuing through 8/15/15.	NOx: 36 lbs/day during normal operations NOx: 28.84 lbs/day during startup/shutdown CO: 131.47 lbs/day during startup/shutdown
3. City of Anaheim Case No. 5146-4 (L. Nevitt)	203(b) 218(c)(1)(B)(i) 218.1(b)(4)(C) 2004(f)(1) 2012(g)(1) 2012, Appendix A, Chapter 2, (B)(17) 2012, Appendix A, Attachment C, (B)(2) 3002(c)(1)	RATA cannot be performed by due date because gas turbine is down for major repairs.	Not Opposed/Granted	SV granted commencing 4/1/15 and continuing through 6/29/15.	None
4. Monroe Street 76 Case No. 6021-1 (K. Manwaring)	203(b) 461(e)(2)	GDF failed vent line vapor blockage test.	Not Opposed/Granted	Ex Parte EV granted commencing 3/3/15 and continuing for 30 days or until the SV hearing currently scheduled for 3/18/15, whichever comes first.	None
5. San Antonio Regional Hospital Case No. 5606-3 (V. Tyagi)	203(b) 1146(c)(1)(A) 3002(c)(1)	Unexpected breakdown of main boiler requires petitioner to temporarily operate non-compliant boiler.	Opposed/Denied	Ex Parte EV denied.	N/A
6. SCAQMD vs. Church of Scientology Western United States Case No. 6018-1 (T. Barrera)	2202	Respondent failed to comply with Rule 2202, On-Road Vehicle Mitigation Options.	Stipulated/Issued	O/A issued commencing 3/3/15; the Hearing Board shall retain jurisdiction over this matter until 12/15/15.	N/A

Case Name and Case No.	Rules	Reason for Petition	District Position/ Hearing Board Action	Type and Length of Variance or Order	Excess Emissions
7. SCAQMD vs. Northridge Hospital Medical Center Case No. 6004-2 (N. Sanchez)	1146(c)(1)(I)	Respondent operating two boilers in violation of Rule 1146.	Stipulated/Issued	O/A issued commencing 3/26/15; the Hearing Board shall retain jurisdiction over this matter until 11/27/15.	N/A
8. Sorenson Engineering Inc. Case No. 6022-1 (K. Manwaring)	203(b) 3002	Recirculation pump serving scrubber for chemical deburring line failed.	Not Opposed/Granted	Ex Parte EV granted commencing 3/5/15 and continuing for 30 days or until the EV hearing currently scheduled for 3/12/15, whichever comes first.	NOx: TBD by 3/20/15
9. Southern California Gas Company Case No. 137-72 (V. Tyagi)	203(b) 2004(f)(1)	Petitioner needs to operate new non-compliant micro-turbine in order to test and/or further troubleshoot problem.	Not Opposed/Granted	SV granted commencing 3/4/15 and continuing through 6/2/15.	CO: TBD by 6/9/15

Acronyms

AOC: Alternative Operating Conditions
APC: Air Pollution Control
BACT: Best Available Control Technology
CEMS: Continuous Emissions Monitoring System
CEQA: California Environmental Quality Act
CO: Carbon Monoxide
DPF: Diesel Particulate Filter
EV: Emergency Variance
FCCU: Fluid Catalytic Cracking Unit
FCD: Final Compliance Date
GDF: Gasoline Dispensing Facility
H₂S: Hydrogen Sulfide
H&S: Health & Safety Code
ICE: Internal Combustion Engine
I/P: Increments of Progress
IV: Interim Variance
MFCD/EXT: Modification of a Final Compliance Date and Extension of a Variance
Mod. O/A: Modification of an Order for Abatement

NH₃: Ammonia
NOV: Notice of Violation
NOx: Oxides of Nitrogen
N/A: Not Applicable
O/A: Order for Abatement
PM: Particulate Matter
PPM: Parts Per Million
RATA: Relative Accuracy Test Audit
ROG: Reactive Organic Gases
RTO: Regenerative Thermal Oxidizer
RV: Regular Variance
SCR: Selective Catalytic Reduction
SOx: Oxides of Sulfur
SV: Short Variance
TBD: To be determined
VOC: Volatile Organic Compound
VRS: Vapor Recovery System

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 14

REPORT: Civil Filings and Civil Penalties Report

SYNOPSIS: This reports the monthly penalties from March 1 through March 31, 2015, and legal actions filed by the General Counsel's Office from March 1 through March 31, 2015. An Index of District Rules is attached with the penalty report.

COMMITTEE: Stationary Source, April 17, 2015, Reviewed

RECOMMENDED ACTION:
Receive and file this report.

Kurt R. Wiese
General Counsel

KRW:lc

Violations

Civil Actions Filed

- | | |
|---|--|
| 1 | HARI ALIPURIA dba GAS & GO
Northeast Judicial District – Alhambra Courthouse
Case No. 15G00307; Filed: 3.10.15 (PH)
P59949
R.461 – Gasoline Transfer and Dispensing |
| 1 | PAUL RADNIA dba FLORENCE R.T.M., INC.
Northeast Judicial District – Alhambra Courthouse
Case No. 15G01790; Filed: 3.11.15 (PH)
P62332
R.461 – Gasoline Transfer and Dispensing |

1 SAIB ALRABADI dba S&F ALRABADI, INC.
Northwest Judicial District – Van Nuys Courthouse East
Case No. 15V02613; Filed: 3.27.15 (PH)
P60070
R.461 – Gasoline Transfer and Dispensing

3 Violations

3 Cases

Attachments

March 2015 Penalty Report

Index of District Rules and Regulations

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
General Counsel's Office

March 2015 Settlement Penalty Report

Total Penalties

Civil Settlements:	\$49,250.00
Self-Reported Violations:	\$120,786.56
MSPAP Settlements:	\$25,500.00
Hearing Board Settlements:	\$14,500.00
Total Cash Settlements:	\$210,036.56
Total SEP Value:	\$0.00
Fiscal Year through March 2015 Cash Total:	\$7,722,066.88
Fiscal Year through March 2015 SEP Value Only Total:	\$299,000.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
CIVIL SETTLEMENTS:							
128571	CLASSIC CLEANERS	222		3/24/2015	NSF	P60708	\$3,500.00
		203 (B)				P55635	
		1421					
		1146.2				P60708	
		1421				P55637	
		222				P55635	
		222				P55637	
		203 (B)					
47643	EXECUTIVE OFFICE CONCEPTS	3002(C)(1)		3/27/2015	AJO	P61501	\$500.00
148291	FULLMER COMPANIES	403		3/3/2015	NSF	P61442	\$3,500.00
		403(D)(1)				P59518	
		403(D)(2)					
136398	LOS ANGELES DEPARTMENT OF WATER & POWER	203		3/5/2015	KCM	P60155	\$4,500.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
100159	NORTH COUNTY SAND AND GRAVEL Penalty settles NOVs; separate terms for Hearing Board matter.	PERP 2458 203 (A) 203 (A) 203 (A), Title 13 203(A) PERP 2460 203(A), PERP 2458		3/19/2015	KRW	P58026 P46730 P58077 P58062 P49299 P49298 P58953	\$15,000.00
18960	PASADENA CITY COLLEGE	3002(C)(1)		3/4/2015	KCM	P61605	\$1,050.00
143408	PUSD WEBSTER ELEMENTARY SCHOOL	203 (A), 1146.1 203 (A), 1146.1 201, 203 (A), 1146.1 461 203(A), 1146.1		3/19/2015	KCM	P48483 P48480 P48482 P48479 P48481	\$6,750.00
800129	SFPP, L.P.	201	Y	3/24/2015	RRF	P56570	\$1,000.00
109654	TRIYAR COMPANIES LLC	203(B), 1146.1 203(B), 1146.1(C)(2)		3/24/2015	NAS	P57941 P57949	\$7,500.00
157656	UNITED COATINGS PAINT MFG. CO.	1113(C)(1)		3/12/2015	LBN	P60325	\$700.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
13990	US GOVT, VETERANS AFFAIRS MEDICAL CENTER	221, 1415, 1146, 3002 221, 1146, 3002 3002(C)(1), 461(E)(2)		3/4/2015	KCM	P56982 P56989 P60650	\$4,500.00
159755	WAHOO'S FISH TACO		222 222	3/4/2015	LBN	P59662 P59657	\$750.00
TOTAL CIVIL PENALTIES: \$49,250.00							
SELF-REPORTED VIOLATIONS:							
60607	BASF CORPORATION Facility self-reported violation of rule in that it had produced certain batches of two clear coat products with VOC levels above the limits specified in the rule on July 31, 2014.		1151	3/18/2015	SH	SRV106	\$120,000.00
158141	FAUX EFFECTS INTERNATIONAL INC. This settlement is associated with NOV P60306 and accounts for additional Rule 1113 violated that were self-reported by the facility.		1113	3/25/2015	WBW	SRV107	\$786.56

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
TOTAL SRV SETTLEMENTS: \$120,786.56							
MSPAP SETTLEMENTS:							
176307	1364 RIALTO AVENUE LLC	1470 203 (B)		3/17/2015		P58082	\$1,650.00
155088	4701 SLAUSON INC.	41960.2 461		3/25/2015		P61757	\$480.00
154723	APOLLO WOOD	403		3/6/2015		P61440	\$3,645.00
131982	CALIFORNIA MEDICAL INNOVATIONS	203 (A), 203(B)		3/4/2015		P56726	\$1,650.00
173418	EVOLUTION FRESH	203(B), 1146, 1146.1		3/24/2015		P61421	\$3,600.00
173418	EVOLUTION FRESH	1146.1		3/24/2015		P61434	\$2,000.00
165621	EXTRA SPACE STORAGE	203 (A)		3/18/2015		P62476	\$200.00
121533	FABRICATION CONCEPTS CORP	203 (B)		3/17/2015		P60404	\$1,100.00
140761	GAS DEPOT INC/UNION 76	461, 41960.2		3/18/2015		P61755	\$200.00
172195	KNOLLWOOD AUTO BODY	109, 203 (A)		3/24/2015		P61309	\$500.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
151532	LINN OPERATING, INC	203 (A)	Y	3/19/2015		P55644	\$50.00
178677	MBK CONSTRUCTION	403(D)(1)		3/19/2015		P59520	\$1,650.00
16825	NORTHROP GRUMMAN GUIDANCE&ELECTONICS	1146.1		3/26/2015		P62154	\$2,000.00
169529	OXEL, INC.	461		3/26/2015		P61673	\$325.00
15523	PASADENA UNI SCH DIST, PASADENA HIGH	203(B), 1146		3/12/2015		P61608	\$1,250.00
173381	SO. CALIFORNIA HOSPITAL AT CULVER CITY	1146.1		3/11/2015		P60965	\$3,200.00
137722	VOPAK TERMINAL LONG BEACH INC.	203 (B)		3/10/2015		P34695	\$2,000.00

TOTAL MSPAP SETTLEMENT: \$25,500.00

HEARING BOARD SETTLEMENTS:

35188	3M COMPANY Hearing Board Case No. 5970-2 Penalty for ongoing operation of the facility's equipment in noncompliance until 9.15.15.	203, 1147, 3002		3/17/2015	KCM	HRB2266	\$4,000.00
44873	A. C. D. INC.	203		3/10/2015	KCM	HRB2265	\$2,500.00

FAC ID	COMPANY NAME	RULE NUMBER	RECLAIM ID	SETTLED DATE	ATTY INT	NOTICE NO.	TOTAL SETTLEMENT
	<p>Hearing Board Case No. 6003-1 Facility self-reported and now is under a stipulated order for abatement and will pay \$2500/month for ongoing operation of facility engine beginning December 15, 2014. Penalty is for December 2014 and January 2015.</p>						
173952	THE REHABILITATION CENTER OF BEVERLY HILLS Hearing Board Case No. 5996-2 Beginning 11.17.14, RCBH shall pay \$1,000/month until they permanently cease use of all three boilers in noncompliance with District Rule.	1146.2		3/27/2015	NAS	HRB2269	\$1,000.00
13990	US GOVT, VETERANS AFFAIRS MEDICAL CENTER Hearing Board Case No. 5970-2 Facility pays monthly penalty for on-going operation of equipment.	1146		3/4/2015	KCM	HRB2264	\$7,000.00

TOTAL HEARING BOARD SETTLEMENTS: \$14,500.00

DISTRICT RULES AND REGULATIONS INDEX FOR MARCH 2015 PENALTY REPORTS

REGULATION I - GENERAL PROVISIONS

Rule 109 Recordkeeping for Volatile Organic Compound Emissions (*Amended 8/18/00*)

REGULATION II – PERMITS

List and Criteria Identifying Information Required of Applicants Seeking A Permit to Construct from the South Coast Air Quality Management - District (*Amended 4/10/98*)

Rule 201 Permit to Construct (*Amended 1/5/90*)

Rule 203 Permit to Operate (*Amended 1/5/90*)

Rule 221 Plans (*Adopted 1/4/85*)

Rule 222 Filing Requirements for Specific Emission Sources Not Requiring a Written permit Pursuant to Regulation II. (*Amended 5/19/00*)

REGULATION IV - PROHIBITIONS

Rule 403 Fugitive Dust (*Amended 12/11/98*) *Pertains to solid particulate matter emitted from man-made activities.*

Rule 461 Gasoline Transfer and Dispensing (*Amended 6/15/01*)

REGULATION XI - SOURCE SPECIFIC STANDARDS

Rule 1113 Architectural Coatings (*Amended 6/20/01*)

Rule 1146 Emissions of Oxides of Nitrogen from Industrial, Institutional and Commercial Boilers, Steam Generators, and Process Heaters (*Amended 11/17/00*)

Rule 1146.1 Emissions of Oxides of Nitrogen from Small Industrial, Institutional, and Commercial Boilers, Steam Generators, and Process Heaters (*Amended 5/13/94*)

Rule 1146.2 Emissions of Oxides of Nitrogen from Large Water Heaters and Small Boilers (*Adopted 1/9/98*)

Rule 1147 NO_x REDUCTIONS FROM MISCELLANEOUS SOURCES (9/08)

Rule 1151 Motor Vehicle and Mobile Equipment Non-Assembly Line Coating Operations (*Amended 12/11/98*)

REGULATION XIII - NEW SOURCE REVIEW

Rule 1303 Requirements (*Amended 4/20/01*)

REGULATION XIV - TOXICS

Rule 1415 Reduction of Refrigerant Emissions from Stationary Refrigeration and Air Conditioning Systems (*Amended 10/14/94*)

Rule 1421 Control of Perchloroethylene Emissions from Dry Cleaning Operations (*Amended 6/13/97*)

Rule 1470 Requirements for Stationary Diesel-Fueled Internal Combustion and Other Compression Ignition Engines

REGULATION XXX - TITLE V PERMITS

Rule 3002 Requirements (*Amended 11/14/97*)

CALIFORNIA HEALTH AND SAFETY CODE § 41700

41960.2 Gasoline Vapor Recovery

CALIFORNIA CODE OF REGULATIONS

PERP 2458 Portable Equipment Recordkeeping and Reporting

PERP 2460 Portable Equipment Testing Requirements

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 15

REPORT: Lead Agency Projects and Environmental Documents Received By SCAQMD

SYNOPSIS: This report provides, for the Board's consideration, a listing of CEQA documents received by the SCAQMD between March 1, 2015 and March 31, 2015, and those projects for which the SCAQMD is acting as lead agency pursuant to CEQA.

COMMITTEE: Mobile Source, April 17, 2015, Reviewed

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:SN:MK:JW:AK

CEQA Document Receipt and Review Logs (Attachments A and B) – Each month, the SCAQMD receives numerous CEQA documents from other public agencies on projects that could adversely affect air quality. A listing of all documents received and reviewed during the reporting period of March 1, 2015 and March 31, 2015 is included in Attachment A. A list of active projects from previous reporting periods for which SCAQMD staff is continuing to evaluate or has prepared comments is included as Attachment B.

The Intergovernmental Review function, which consists of reviewing and commenting on the adequacy of the air quality analysis in CEQA documents prepared by other lead agencies, is consistent with the Board's 1997 Environmental Justice Guiding Principles and Environmental Justice Initiative #4. Furthermore, as required by the Environmental Justice Program Enhancements for FY 2002-03 approved by the Board in September 2002, each of the attachments notes those proposed projects where the SCAQMD has been contacted regarding potential air quality-related environmental justice concerns.

The SCAQMD has established an internal central contact to receive information on projects with potential air quality-related environmental justice concerns. The public may contact the SCAQMD about projects of concern by the following means: in writing via fax, email, or standard letters; through telephone communication; as part of oral comments at SCAQMD meetings or other meetings where SCAQMD staff is present; or submitting newspaper articles. The attachments also identify for each project, the dates of the public comment period and the public hearing date, as reported at the time the CEQA document is received by the SCAQMD. Interested parties should rely on the lead agencies themselves for definitive information regarding public comment periods and hearings as these dates are occasionally modified by the lead agency.

At the January 6, 2006 Board meeting, the Board approved the Workplan for the Chairman's Clean Port Initiatives. One action item of the Chairman's Initiatives was to prepare a monthly report describing CEQA documents for projects related to goods movement and to make full use of the process to ensure the air quality impacts of such projects are thoroughly mitigated. In response to describing goods movement, CEQA documents (Attachments A and B) are organized to group projects of interest into the following categories: goods movement projects; schools; landfills and wastewater projects; airports; and general land use projects, etc. In response to the mitigation component, guidance information on mitigation measures were compiled into a series of tables relative to: off-road engines; on-road engines; harbor craft; ocean-going vessels; locomotives; fugitive dust; and greenhouse gases. These mitigation measure tables are on the CEQA webpages portion of the SCAQMD's website. Staff will continue compiling tables of mitigation measures for other emission sources, including airport ground support equipment, etc.

As resources permit, staff focuses on reviewing and preparing comments for projects: where the SCAQMD is a responsible agency; that may have significant adverse regional air quality impacts (e.g., special event centers, landfills, goods movement, etc.); that may have localized or toxic air quality impacts (e.g., warehouse and distribution centers); where environmental justice concerns have been raised; and those projects for which a lead or responsible agency has specifically requested SCAQMD review. If the SCAQMD staff provided written comments to the lead agency as noted in the column "Comment Status", there is a link to the "SCAQMD Letter" under the Project Description. In addition, if the SCAQMD staff testified at a hearing for the proposed project, a notation is provided under the "Comment Status." However, if there is no notation, then SCAQMD staff did not provide testimony at a hearing for the proposed project.

During the period March 1, 2015 through March 31, 2015, the SCAQMD received 99 CEQA documents. Of the total of 112 documents* listed in Attachments A and B:

- 35 comment letters were sent;
- 17 documents were reviewed, but no comments were made;
- 20 documents are currently under review;
- 0 documents did not require comments (e.g., public notices, plot plans, Final Environmental Impact Reports);
- 0 documents was not reviewed; and
- 40 documents were screened without additional review.

* These statistics are from March 1, 2015 to March 31, 2015 and do not include the most recent “Comment Status” updates in Attachments A and B.

Copies of all comment letters sent to lead agencies can be found on the SCAQMD’s CEQA webpage at the following internet address:
<http://www.aqmd.gov/home/regulations/ceqa/commenting-agency/comment-letter-year-2014>.

SCAQMD Lead Agency Projects (Attachment C) – Pursuant to CEQA, the SCAQMD periodically acts as lead agency for stationary source permit projects. Under CEQA, the lead agency is responsible for determining the type of CEQA document to be prepared if the proposal is considered to be a “project” as defined by CEQA. For example, an Environmental Impact Report (EIR) is prepared when the SCAQMD, as lead agency, finds substantial evidence that the proposed project may have significant adverse effects on the environment. Similarly, a Negative Declaration (ND) or Mitigated Negative Declaration (MND) may be prepared if the SCAQMD determines that the proposed project will not generate significant adverse environmental impacts, or the impacts can be mitigated to less than significance. The ND and MND are written statements describing the reasons why proposed projects will not have a significant adverse effect on the environment and, therefore, do not require the preparation of an EIR.

Attachment C to this report summarizes the active projects for which the SCAQMD is lead agency and is currently preparing or has prepared environmental documentation. During March, one new Lead Agency project began evaluation. As noted in Attachment C, the SCAQMD continued working on the CEQA documents for six active projects during March.

Attachments

- A. Incoming CEQA Documents Log
- B. Ongoing Active Projects for Which SCAQMD Has or Will Conduct a CEQA Review
- C. Active SCAQMD Lead Agency Projects

**ATTACHMENT A
INCOMING CEQA DOCUMENTS LOG
MARCH 1, 2015 TO MARCH 31, 2015**

<u>SCAQMD LOG-IN NUMBER</u> PROJECT TITLE	PROJECT DESCRIPTION	TYPE OF DOC.	LEAD AGENCY	COMMENT STATUS
<i>Airports</i> LAC150320-01 6R-24L Runway Safety Area (RSA) Improvements Project	The proposed project includes relocating the end of Runway 6R approximately 200 feet to the east and displacing the threshold of Runway 6R approximately 500 feet. Comment Period: 3/19/2015 - 4/24/2015 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	Los Angeles World Airports	Under review, may submit written comments
<i>Industrial and Commercial</i> LAC150312-05 ENV-2014-3842/ 101 & 107 N. La Brea Ave; Wilshire	The proposed project consists of the construction, use & maintenance of a new single-story, 6,000-square-foot commercial building with 25 rooftop vehicle parking spaces, 12 alleyway adjacent surface parking spaces, and 39 bicycle parking spaces. Comment Period: 3/12/2015 - 4/1/2015 Public Hearing: N/A	Notice of Availability of a Draft Mitigated Negative Declaration	City of Los Angeles	Document screened - No further review conducted
<i>Industrial and Commercial</i> LAC150313-02 Cumulus Transit Oriented/Mixed-Use Project	The proposed project consists of demolishing an existing office building, accessory structures and four light industrial structures, two existing radio tower structures, and the development of an approximately 1,900,000-square-foot transit-oriented, mixed-use development. http://www.aqmd.gov/docs/default-source/ceqa/comment-letters/2015/march/nopcumulus.pdf Comment Period: 3/13/2015 - 4/13/2015 Public Hearing: N/A	Notice of Preparation	City of Los Angeles	SCAQMD staff commented 3/19/2015
<i>Waste and Water-related</i> ALL150311-07 Routine Program Change to California Coastal Management Programs; to Office for Coastal Management; for Changes to CCMP List of Federal Licenses and Permits Subject to Consistency Review	The proposed project consists of changes to the California Coastal Management Program (CCMP), in the form of a Routine Program Change (RPC), to the Office for Coastal Management. The RPC would update and add to the CCMP list of federal licenses and permits subject to certification for consistency with the CCMP, under the federal Coastal Zone Management Act. Comment Period: 3/11/2015 - 3/23/2015 Public Hearing: N/A	Notice of a Public Hearing	California Coastal Commission	Document reviewed - No comments sent

- Project has potential environmental justice concerns due to the nature and/or location of the project.

**ATTACHMENT C
ACTIVE SCAQMD LEAD AGENCY PROJECTS
THROUGH MARCH 31, 2015**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
<p>The Phillips 66 (formerly ConocoPhillips) Los Angeles Refinery Ultra Low Sulfur Diesel project was originally proposed to comply with federal, state and SCAQMD requirements to limit the sulfur content of diesel fuels. Litigation against the CEQA document was filed. Ultimately, the California Supreme Court concluded that the SCAQMD had used an inappropriate baseline and directed the SCAQMD to prepare an EIR, even though the project has been built and has been in operation since 2006. The purpose of this CEQA document is to comply with the Supreme Court's direction to prepare an EIR.</p>	<p>Phillips 66 (formerly ConocoPhillips), Los Angeles Refinery</p>	<p>Environmental Impact Report (EIR)</p>	<p>The Notice of Preparation/ Initial Study (NOP/IS) was circulated for a 30-day public comment period on March 26, 2012 to April 26, 2012. The consultant submitted the administrative Draft EIR to SCAQMD in late July 2013. The Draft EIR was circulated for a 45-day public review and comment period from September 30, 2014 to November 13, 2014. Two comment letters were received and responses to comments are being prepared.</p>	<p>Environmental Audit, Inc.</p>
<p>Tesoro Refinery proposes to integrate the Tesoro Wilmington Operations with the Tesoro Carson Operations (former BP Refinery). The proposed project also includes modifications of storage tanks at both facilities, new interconnecting pipelines, and new electrical connections. In addition, Carson's Liquid Gas Rail Unloading facilities will be modified. The proposed project will be designed to comply with the federally mandated Tier 3 gasoline specifications and with State and local regulations mandating emission reductions.</p>	<p>Tesoro Refining and Marketing Company Los Angeles Refinery</p>	<p>Environmental Impact Report (EIR)</p>	<p>A previous Draft Negative Declaration was withdrawn in order for the storage tank project to be analyzed in a new CEQA document that also addresses the Tesoro-BP Refinery Integration Project. A NOP/IS was prepared for the integration project and released for a 30-day public review and comment period from September 10, 2014 to October 10, 2014. 86 comment letters were received, and responses to comments are being prepared. The consultant is preparing a Draft EIR.</p>	<p>Environmental Audit, Inc.</p>
<p>Quemetco is proposing an increase in daily furnace feed rate.</p>	<p>Quemetco</p>	<p>Environmental Impact Report (EIR)</p>	<p>An Initial Study has been prepared by the consultant and is under review by SCAQMD staff.</p>	<p>Trinity Consultants</p>
<p>Chevron is proposing modifications to its Product Reliability and Optimization (PRO) Project and has applied for a modification to its permit to increase the firing duty of its Tail Gas Unit to meet current BACT requirements.</p>	<p>Chevron</p>	<p>Addendum</p>	<p>An addendum to the 2008 Final EIR has been prepared by the consultant. Staff has reviewed the Addendum and provided edits to the consultant. Chevron is currently conducting a BACT review for equipment.</p>	<p>Environmental Audit, Inc.</p>

A shaded row indicates a new project.

**ATTACHMENT C
ACTIVE SCAQMD LEAD AGENCY PROJECTS
THROUGH MARCH 31, 2015**

PROJECT DESCRIPTION	PROPONENT	TYPE OF DOCUMENT	STATUS	CONSULTANT
Breitburn Operating LP is proposing to upgrade their fluid handling systems to facilitate an increase in the amount of produced water that can be treated at the site in Sante Fe Springs.	Breitburn Operating LP	Environmental Impact Report (EIR)	The NOP/IS was released for a 30-day public review and comment period from December 4, 2014 to January 2, 2015. Two comment letters were received and responses are being prepared. A Draft EIR has been prepared and staff is currently reviewing.	Environ
DCor LLC is proposing to install three flares on their off-shore oil Platform Esther.	DCOR LLC	Mitigated Negative Declaration	A preliminary draft Mitigated Negative Declaration has been prepared by the consultant and is under review by SCAQMD staff.	RBF Consulting

A shaded row indicates a new project.

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 16

REPORT: Rule and Control Measure Forecast

SYNOPSIS: This report highlights SCAQMD rulemaking activities and public workshops potentially scheduled for the year 2015.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:PF:cg

415	Odors from Animal Rendering
Proposed Rule 415 is moved from June to July to allow staff to continue working with stakeholders on key issues.	
1156	Further Reductions of Particulate Emissions from Cement Manufacturing Facilities
Rule 1156 is being moved from June to September to allow additional time to address stakeholder comments on the proposed amendments.	
212	Standards for Approving Permits and Issuing Public Notice Rule
1401	New Source Review of Toxic Air Contaminants
1401.1	Requirements for New and Relocated Facilities Near Schools
1402	Control of Toxic Air Contaminants from Existing Sources
Rules 212, 1401, 1401.1 and 1402 are moved from May to June to allow for stakeholder review and comment on the proposed amendment package.	
1420	Emissions Standard for Lead
Rule 1420 is moved from June to November due to other toxics rulemaking priorities.	

1420.2	Emissions Standard for Lead from Metal Melting Operations
Proposed Rule 1420.2 is moved from June to July to allow time to conduct a CEQA analysis.	
Reg. XX	Regional Clean Air Incentives Market (RECLAIM) (CMB-01)
Regulation XX is moved from June to July to allow additional time to continue working with stakeholders on key issues.	
2301	Control of Emissions from New or Redevelopment Projects (EGM-01)
Proposed Rule 2301 is being moved from June to November to be considered as part of the early action measures for the 2016 AQMP and to allow for additional staff analysis.	
4001	Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)
Proposed Rule 4001 is moved from June to September to allow staff more time to work on technical details with stakeholders.	

2015 MASTER CALENDAR

Below is a list of all rulemaking activity scheduled for the year 2015. The last four columns refer to the type of rule adoption or amendment. A more detailed description of the proposed rule adoption or amendment is located in the Attachments (A through D) under the type of rule adoption or amendment (i.e. AQMP, Toxics, Other and Climate Change).

**An asterisk indicates that the rulemaking is a potentially significant hearing.*

+This proposed rule will reduce criteria air contaminants and assist toward attainment of ambient air quality standards.

¹Subject to Board approval

California Environmental Quality Act shall be referred to as "CEQA."

Socioeconomic Analysis shall be referred to as "Socio."

2015

June		AQMP	Toxics	Other	Climate Change
212 ¹	Standards for Approving Permits and Issuing Public Notice Rule		√		
1401 ¹	New Source Review of Toxic Air Contaminants		√		
1401.1 ¹	Requirements for New and Relocated Facilities Near Schools		√		
1402 ¹	Control of Toxic Air Contaminants from Existing Sources		√		
1148.1	Oil and Gas Production Wells			√	
1148.2	Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers		√	√	
July					
219	Equipment Not Requiring a Written Permit Pursuant to Regulation II			√	
415 ¹	Odors from Animal Rendering			√	
1123	Refinery Process Turnarounds (MCS-03)	√			
1171	Solvent Cleaning Operations (CTS-02)	√			

2015 MASTER CALENDAR (continued)

2015

July	(continued)	AQMP	Toxics	Other	Climate Change
1420.2 ¹	Emissions Standard for Lead from Metal Melting Operations		√		
1430.1	Control of Toxic Air Contaminants from Grinding Operations at Forging Facilities		√		
Reg. XX ¹	Regional Clean Air Incentives Market (RECLAIM) (CMB-01)	√			
September					
416	Odors from Kitchen Grease Processing			√	
1106	Marine Coating Operations			√	
1106.1	Pleasure Craft Coating Operations			√	
1156 ¹	Further Reductions of Particulate Emissions from Cement Manufacturing Facilities		√		
1304.2	Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Load Serving Entities			√	
1304.3	Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Municipalities			√	
4001 ¹	Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01)	√			
October					
1110.2	Emissions from Gaseous and Liquid-Fueled Engines			√	
1161	VOC Reductions from Mold Release Agents (CTS-03)	√			
1188	VOC Reductions from Vacuum Trucks (FUG-01)	√			

2015 MASTER CALENDAR (continued)

2015

November		AQMP	Toxics	Other	Climate Change
1113	Architectural Coatings (CTS-01)	√			
1177	Liquefied Petroleum Gas Transfer and Dispensing (FUG-02)	√			
1402	Control of Toxic Air Contaminants from Existing Sources		√		
1420 ¹	Emissions Standard for Lead		√		
1450	Control of Methylene Chloride Emissions		√		
2301 ¹	Control of Emissions from New or Redevelopment Projects (EGM-01)	√			
December					
1136	Wood Products Coatings (CTS-02)			√	
1166	Volatile Organic Compound Emissions from Decontamination of Soil			√	
1430	Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations		√		

2015 TO-BE DETERMINED

TBD		AQMP	Toxics	Other	Climate Change
219	Equipment Not Requiring a Written Permit Pursuant to Regulation II			√	
222	Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation I			√	

2015 MASTER CALENDAR (continued)

2015 TO-BE DETERMINED

TBD	(continued)	AQMP	Toxics	Other	Climate Change
224	Incentives for Super-Compliant Technologies			√	
1107	Coating of Metal Parts and Products (CTS-02)			√	
1118	Control of Emissions from Refinery Flares			√	√
1147	NOx Reductions from Miscellaneous Sources			√	
1148.2	Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers		√	√	
1168	Adhesive and Sealant Applications (CTS-02)	√			
1190 Series	Fleet Vehicle Requirements			√	
Reg. XIII	New Source Review			√	
1403	Asbestos Emissions from Demolition/Renovation Activities		√		
1411	Recovery of Recycling of Refrigerants from Motor Vehicle Air Conditioners		√		
1902	Transportation Conformity – Preamble			√	
2511	Credit Generation Program for Locomotive Head End Power Unit Engines			√	
2512	Credit Generation Program for Ocean-Going Vessels at Berth			√	
Reg. XXVII	Climate Change				√

2015 MASTER CALENDAR (continued)

2015 TO-BE DETERMINED

TBD	(continued)	AQMP	Toxics	Other	Climate Change
Reg. IV, IX, X, XI, XIV, XX, XXX and XXXV Rules	Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, address variance issues/ technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitment. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast. The CCP has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.	√	√	√	√
---	Mobile Source Measures	√	√		
---	SIP Implementation	√			

ATTACHMENT A

AQMP Rule Activity Schedule

This attachment lists those control measures that are being developed into rules or rule amendments for Governing Board consideration that are designed to implement the amendments to the 2012 Air Quality Management Plan.

2015

July	
1123	<p>Refinery Process Turnarounds (MCS-03) <i>[Projected Emission Reduction: N/A]</i> Proposed amendments, if needed, will implement Control Measure MSC-03 of the 2007 AQMP by establishing procedures that better quantify emission impacts from start-up, shutdown or turnaround activities. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1171	<p>Solvent Cleaning Operations (CTS-02) <i>[Projected Emission Reduction: Some VOC]</i> The proposed amendments will review existing exemptions and include clarifications that may arise due to compliance verification activities or manufacturer and public input, including the sales prohibition clause. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. XX ¹	<p>Regional Clean Air Incentives Market (RECLAIM) (CMB-01) <i>[Projected Emission Reduction: 3-5 TPD]</i> Proposed amendments to Regulation XX will seek to implement a minimum contingency measure CMB-01 of the 2012 AQMP and possibly Phase II of the control measure if the technology assessment can be completed within the allotted time for this rulemaking. <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
September	
4001 ¹	<p>Backstop to Ensure AQMP Emission Reduction Targets Are Met at Commercial Marine Ports (IND-01) <i>[Projected Emission Reduction: TBD]</i> If triggered, the proposed rule will address cost-effective NO_x, SO_x, and PM_{2.5} emission reduction strategies from port-related sources to ensure emission reductions claimed or emission targets assumed in the 2012 AQMP for the 24-hour PM_{2.5} standard are maintained. <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT A

AQMP Rule Activity Schedule (continued)

October	
1161	<p>VOC Reductions from Mold Release Agents (CTS-03) <i>[Projected Emission Reduction: TBD]</i> The proposed rule will establish requirements for mold release products used in composite, fiberglass, metal and plastic manufacturing, and concrete stamping operations. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1188	<p>VOC Reductions from Vacuum Trucks (FUG-01) <i>[Projected Emission Reduction: TBD]</i> The proposed rule will establish VOC emission standards and other requirements associated with the operation of vacuum trucks not covered by Rule 1149 – Storage Tank and Pipeline Cleaning and Degassing. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
November	
1113	<p>Architectural Coatings (CTS-01) <i>[Projected Emission Reduction: N/A]</i> Potential amendments may include a backstop provision to address additional potential VOC emission reductions from the small container exemption, high volume categories, and increased fees in Rule 314 – Fees for Architectural Coatings. Additional clarifications will also be considered to address ongoing compliance issues. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1177	<p>Liquefied Petroleum Gas Transfer and Dispensing (FUG-02) <i>[Projected Emission Reduction: N/A]</i> Potential amendments may be proposed to include additional sources of emissions from the dispensing and transfer of LPG. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
2301 ¹	<p>Control of Emissions from New or Redevelopment Projects (EGM-01) <i>[Projected Emission Reduction: Committed to reduce 0.5 tons per day of VOC, 0.8 tons per day of NOx, and 0.5 tons per day of PM2.5 in 2023.]</i> The proposed rule will implement AQMP Control Measure EGM-01 – Emission Reductions from New or Redevelopment Projects. Proposed Rule 2301 will consider the co-benefits of VOC, NOx, and PM 2.5 emission reductions from the 2012 Regional Transportation Plan/Sustainable Communities Strategy and San Joaquin Valley Air Pollution Control District’s Rule 9510 – Indirect Source Review to meet the “all feasible measures” requirement. <i>Carol Gomez 909.396.3264 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT A

AQMP Rule Activity Schedule (continued)

To-Be Determined 2015

To-Be Determined	
1168	<p>Adhesive and Sealant Applications (CTS-02) <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 1168 will partially implement CTS-02 and reflect improvements in adhesive and sealants technology, as well as remove outdated provisions and include minor clarifications. <i>Naveen Berry 909.396.236 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XIV, XX, XXX AND XXXV Rules	<p>Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, address variance issues/ technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitments and/or long-term emission reduction commitments. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast.</p>
---	<p>Mobile Source Measures <i>[Projected Emission Reduction: TBD]</i> The District may adopt measures to limit emissions from mobile sources, both on-road and off-road (nonroad) sources, consistent with the Board’s direction to counsel at the October 2014 meeting to explore the District’s regulatory authority over mobile sources. These measures may include but are not limited to, transportation control measures, operational limits, fleet rules, credit generation rules, and indirect source rules, such as an indirect source rule for railyards and/or other sources which attract mobile sources. <i>Henry Hogo 909.396.3184 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
---	<p>SIP Implementation <i>[Projected Emission Reduction: TBD]</i> The District may adopt additional measures to carry out the State Implementation Plan for PM2.5 or ozone, or other pollutants if required, as deemed necessary to meet commitments and federal requirements. <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT B

Toxics Rule Activity Schedule

This attachment lists those rules or rule amendments for Governing Board consideration that are designed to implement the Air Toxics Control Plan.

2015

June	
212 ¹ 1401 ¹ 1401.1 ¹ 1402 ¹	<p>Standards for Approving Permits and Issuing Public Notice New Source Review of Toxic Air Contaminants Requirements for New and Relocated Facilities Near Schools Control of Toxic Air Contaminants from Existing Sources <i>[Projected Emission Reduction: TBD]</i> The Office of Environmental Health Hazard Assessment (OEHHA) is updating its Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. The proposed amendments will address revisions to OEHHA’s updated guidance. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1148.2	<p>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 1148.2 may be needed to extend the implementation of requirements to submit emissions reports and other necessary changes to be consistent with SB 4. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
July	
1420.2 ¹	<p>Emissions Standard for Lead from Metal Melting Operations <i>[Projected Emission Reduction: TBD]</i> In October 2008, U.S. EPA lowered the National Ambient Air Quality Standard (NAAQS) for lead from 1.5 to 0.15 ug/m³. Proposed Rule 1420.2 will establish requirements for medium lead emitting sources to ensure compliance with the lead NAAQS. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1430.1	<p>Control of Toxic Air Contaminants from Grinding Operations at Forging Facilities <i>[Projected Emission Reduction: TBD]</i> Proposed Rule 1430.1 will establish emission reduction requirements to control toxic emissions from grinding operations at forging facilities. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT B

Toxics Rule Activity Schedule (continued)

2015

September	
1156	<p>Further Reductions of Particulate Emissions from Cement Manufacturing Facilities <i>[Projected Emission Reduction: N/A]</i> As part of the 2009 amendments to Rule 1156, cement manufacturing facilities were required to establish and maintain a monitoring network to ensure that the surrounding areas were not exposed to unhealthful levels of hexavalent chromium emanating from the facilities. Since establishing the monitoring networks, no exceedance of the standard established in the amended rule has occurred. Pursuant to the adoption resolution, the proposed rule amendments will address the conditions by which the existing monitoring requirements could be reduced, particularly as they pertain to partial or full facility shutdown and any change in ownership and land use. <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
November	
1402	<p>Control of Toxic Air Contaminants from Existing Sources <i>[Projected Emission Reduction: TBD]</i> Amendments to Rule 1402 will address new or revised toxic air contaminant listings and risk levels that have been approved by OEHHA. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1420 ¹	<p>Emissions Standard for Lead <i>[Projected Emission Reduction: TBD]</i> In October 2008, U.S. EPA lowered the National Ambient Air Quality Standard (NAAQS) for lead from 1.5 to 0.15 ug/m³. Proposed Rule 1420 will establish requirements for smaller lead emitting sources that are not covered under Rules 1420.1 and Rule 1420.2 to ensure compliance with the lead NAAQS. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1450	<p>Control of Methylene Chloride Emissions <i>[Projected Emission Reduction: N/A]</i> Proposed Rule 1450 will establish requirements to control methylene chloride from furniture stripping operations and other sources. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
December	
1430	<p>Control of Toxic Air Contaminants from Metal Forging, Shredding, Grinding and Other Metal Processing Operations <i>[Projected Emission Reduction: TBD]</i> Proposed Rule 1430 will establish emission reduction requirements to control toxic emissions from grinding operations. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT B

Toxics Rule Activity Schedule (continued)

To-Be Determined 2015

To-Be Determined	
1148.2	<p>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers <i>[Projected Emission Reduction: N/A]</i> Revisions to Rule 1148.2 may be needed based on information collected through implementation of Rule 1148.2. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1403	<p>Asbestos Emissions from Demolition/Renovation Activities <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 1403 will include specific requirements when conducting asbestos emitting demolition/renovation activities at schools, daycares, and possibly establishments that have sensitive populations. Amendments may include other provisions to improve the implementation of the rule. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1411	<p>Recovery of Recycling of Refrigerants from Motor Vehicle Air Conditioners <i>[Projected Emission Reduction: TBD]</i> The proposed amendments to Rule 1411 will align with existing Clean Air Act requirements to minimize the release of refrigerants during the servicing of motor vehicle air conditioning, incorporate other clarifications and enhance enforceability. <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XIV, XX, XXX and XXXV Rules	<p>The Clean Communities Plan has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.</p>
---	<p>Mobile Source Measures <i>[Projected Emission Reduction: TBD]</i> The District may adopt measures to limit emissions from mobile sources, both on-road and off-road (nonroad) sources, consistent with the Board's direction to counsel at the October 2014 meeting to explore the District's regulatory authority over mobile sources. These measures may include but are not limited to, transportation control measures, operational limits, fleet rules, credit generation rules, and indirect source rules, such as an indirect source rule for railyards and/or other sources which attract mobile sources. <i>Henry Hogo 909.396.3184 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity Schedule

This attachments lists rules or rule amendments for Governing Board consideration that are designed to improve rule enforceability, SIP corrections, or implementing state or federal regulations.

2015

June	
1148.1	<p>Oil and Gas Production Wells <i>[Projected Emission Reduction: N/A]</i> Amendments may be necessary to improve rule effectiveness in reducing emissions from production wells and associated equipment and improving housekeeping activities to minimize potential nuisance. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1148.2	<p>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 1148.2 may be needed to extend the implementation of requirements to submit emissions reports and other necessary changes to be consistent with SB 4. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
July	
219	<p>Equipment Not Requiring a Written Permit Pursuant to Regulation II <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 219 may be proposed to exclude equipment with de minimis emissions from the requirement to obtain written permits. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
415 ¹	<p>Odors from Animal Rendering <i>[Projected Emission Reduction: TBD]</i> Proposed Rule 415 will provide protection to the public from odors created during animal rendering operations. The proposed rule will incorporate a preventative approach to odors by establishing Best Management Practices and will consider enclosures for operations and processes that generate odors, such as receiving, cooking, processing of oils, tallow and meat, and from wastewater treatment. The proposed rule will also examine requirements for an Odor Mitigation Plan for continuing odor issues at facilities impacted by the rule. <i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity (continued)

2015

September	
416	<p>Odors from Kitchen Grease Processing <i>[Projected Emission Reduction: TBD]</i></p> <p>Proposed Rule 416 will provide protection to the public from odors created during kitchen grease processing operations. The proposed rule will establish Best Management Practices (BMP) to address odors created during delivery and processing of trap grease to affected facilities. In addition, the proposed rule will examine enclosure for wastewater treatment operations and filter cake storage. The proposed rule will also examine requirements for an Odor Mitigation Plan for continuing odor issues at facilities impacted by the rule.</p> <p><i>Philip Fine 909.396.2239 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1106 1106.1	<p>Marine Coating Operations Pleasure Craft Coating Operations <i>[Projected Emission Reduction: N/A]</i></p> <p>The proposed amendments will include any clarifications that may arise due to the compliance verification activities or manufacturer and public input, including the sales prohibition clause.</p> <p><i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1304.2	<p>Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Load Serving Entities <i>[Projected Emission Reduction: TBD]</i></p> <p>Proposed Rule 1304.2 would provide for new, greenfield or additions at existing electrical generating facilities to access the SCAQMD’s internal offset account, subject to qualifying conditions, eligibility, and the payment of a fee to invest in air quality improvement projects consistent with the AQMP. This rule is a companion to Rule 1304.1 and will provide offsets so that new, proposed and other existing electrical generating facilities can compete on a level playing field with existing generating facilities with utility steam boilers, and implement the State’s plan to maintain grid reliability.</p> <p><i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity (continued)

2015

September	(continued)
1304.3	<p>Greenfield or Existing Electrical Generating Facility Fee for Use of Offsets for Municipalities <i>[Projected Emission Reduction: TBD]</i> Proposed Rule 1304.3 would provide for new, greenfield or additions at existing electrical generating facilities to access the SCAQMD’s internal offset account, subject to qualifying conditions, eligibility, and the payment of a fee to invest in air quality improvement projects consistent with the AQMP. This rule is a companion to Rule 1304.1 and will provide offsets so that new, proposed and other existing electrical generating facilities run by local municipalities can meet the reliable electric needs of their customers. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
October	
1110.2	<p>Emissions from Gaseous- and Liquid-Fueled Engines <i>[Projected Emission Reduction: N/A]</i> The proposed amendments to Rule 1110.2 would potentially extend the compliance date for biogas used to fuel power generators at landfills and municipal waste facilities. The amendment would result in a delay in emission reductions. <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
December	
1136	<p>Wood Products Coatings <i>[Projected Emission Reduction: TBD]</i> The proposed amendments will include any clarification that may arise due to compliance verification activities or manufacturer and public input, including the sales prohibition clause. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1166	<p>Volatile Organic Compound Emissions from Decontamination of Soil <i>[Projected Emission Reduction: TBD]</i> Amendments to Rule 1166 will expand the applicability to decontamination of soils containing toxic metals. The proposed amended rule would establish additional requirements to control emissions from activities involving storing, handling, and transporting soil contaminated with toxic metals. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity (continued)

To-Be Determined 2015

To-Be Determined	
219	<p>Equipment Not Requiring a Written Permit Pursuant to Regulation II <i>[Projected Emission Reduction: N/A]</i> Amendments to Rule 219 may be proposed to exclude equipment with de minimis emissions from the requirement to obtain written permits. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
222	<p>Filing Requirements for Specific Emission Sources Not Requiring a Written Permit Pursuant to Regulation I <i>[Projected Emission Reduction: N/A]</i> Amendments for Rule 222 may be proposed to add additional equipment categories to the streamlined filing/registration program of Rule 222. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
224	<p>Incentives for Super-Compliant Technologies <i>[Projected Emission Reduction: TBD]</i> This proposed rule will outline strategies and requirements to incentivize the development, establishment and use of super-compliant technologies. It can be considered as a part of Rule 219 amendments or proposed as a separate incentive rule. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1107	<p>Coating of Metal Parts and Products <i>[Projected Emission Reduction: N/A]</i> Potential amendments to Rule 1107 would further reduce VOC emissions and improve rule clarity and enforceability. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1118	<p>Control of Emissions from Refinery Flares <i>[Projected Emission Reduction: TBD]</i> Amendments may be necessary to address results of the additional analysis required by the adopting resolution for the last amendment. Amendments may also be necessary to implement an AB 32 measure. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1147	<p>NOx Reductions from Miscellaneous Sources <i>[Projected Emission Reduction: N/A]</i> Amendments may be necessary to address findings of ongoing technology assessment. <i>Joe Cassmassi 909.396.3155 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity (continued)

To-Be Determined 2015

To-Be Determined	(continued)
1148.2	<p>Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers <i>[Projected Emission Reduction: N/A]</i> Revisions to Rule 1148.2 may be needed based on information collected through implementation of Rule 1148.2. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1190 Series	<p>Fleet Vehicle Requirements <i>[Projected Emission Reduction: TBD]</i> Amendments to Rule 1190 series fleet rules may be necessary to address remaining outstanding implementation issues and in the event the court's future action requires amendments. In addition, the current fleet rules may be expanded to achieve additional air quality and air toxic benefits. <i>Dean Saito 909.396.2647 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. XIII	<p>New Source Review <i>[Projected Emission Reduction: TBD]</i> Amendments may be necessary to address U.S. EPA comments on SIP approvability issues and/or requirements. Amendments may also be proposed for clarity and improved enforceability. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
1902	<p>Transportation Conformity <i>[Projected Emission Reduction: TBD]</i> Amendments to Rule 1902 may be necessary to bring the District's Transportation Conformity rule in line with current U.S. EPA requirements. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
2511	<p>Credit Generation Program for Locomotive Head End Power Unit Engines <i>[Projected Emission Reduction: TBD]</i> Develop a rule to allow generation of PM mobile source emission reduction credits from Locomotive Head End Power Unit Engines. Credits will be generated by retrofitting engines with PM controls or replacing the engines with new lower-emitting engines. <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>

ATTACHMENT C

Other Rule Activity (continued)

To-Be Determined 2015

To-Be Determined	(continued)
2512	<p>Credit Generation Program for Ocean-Going Vessels at Berth <i>[Projected Emission Reduction: TBD]</i> Develop a rule to allow generation of PM, NO_x and SO_x emission reduction credits from ocean-going vessels while at berth. Credits will be generated by controlling the emissions from auxiliary engines and boilers of ships while docked. <i>Randall Pasek 909.396.2251 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XX, XXX AND XXXV Rules	<p>Various rule amendments may be needed to meet the requirements of state and federal laws, implement OEHHA revised risk assessment guidance, address variance issues/ technology-forcing limits, to abate a substantial endangerment to public health or welfare, or to seek additional reductions to meet the SIP short-term measure commitment. The associated rule development or amendments include, but are not limited to, SCAQMD existing rules listed in Table 1 of the December 5, 2014 Rule and Control Measure Forecast and new or amended rules to implement the 2012 AQMP measures in Table 2 of the December 5, 2014 Rule and Control Measure Forecast. The CCP has been updated to include new measures to address toxic emissions in the basin. The CCP includes a variety of measures that will reduce exposure to air toxics from stationary, mobile, and area sources (Table 3 of the December 5, 2014 Rule and Control Measure Forecast). Rule amendments may include updates to provide consistency with CARB Statewide Air Toxic Control Measures.</p>

ATTACHMENT D Climate Change

This attachments lists rules or rule amendments for Governing Board consideration that are designed to implement SCAQMD’s Climate Change Policy or for consistency with state or federal rules.

To-Be Determined 2015

To-Be Determined	
1118	<p>Control of Emissions from Refinery Flares <i>[Projected Emission Reduction: TBD]</i> Amendments may be necessary to address findings from the additional analysis required by the adopting resolution for the last amendment. Amendments may also be necessary to implement an AB 32 measure. <i>Naveen Berry 909.396.2363 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. XXVII	<p>Climate Change <i>[Projected Emission Reduction: TBD]</i> Additional protocols may be added to Rules 2701 and 2702 and amendments to existing rules may be needed to address implementation issues. <i>Susan Nakamura 909.396.3105 CEQA: Krause 909.396.2706 Socio: Cassmassi 909.396.3155</i></p>
Reg. IV, IX, X, XI, XIV, XX, XXX and XXXV Rules	<p>Rule developments/amendments may be needed to meet the requirements of state and federal laws related to climate change air pollutants.</p>

 Back to Agenda

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 17

PROPOSAL: Report of RFQs Scheduled for Release in May

SYNOPSIS: This report summarizes the RFQs for budgeted services over \$75,000 scheduled to be released for advertisement for the month of May.

COMMITTEE: Administrative, April 10, 2015; Recommended for Approval

RECOMMENDED ACTION:
Approve the release of RFQs for the month of May.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO:lg

Background

At its January 8, 2010 meeting, the Board approved a revised Procurement Policy and Procedure. Under the revised policy, RFQs for budgeted items over \$75,000, which follow the Procurement Policy and Procedure, no longer require individual Board approval. However, a monthly report of all RFQs over \$75,000 is included as part of the Board agenda package and the Board may, if desired, take individual action on any item. The report provides the title and synopsis of the RFQ, the budgeted funds available, and the name of the Deputy Executive Officer/Asst. Deputy Executive Officer responsible for that item. Further detail including closing dates, contact information, and detailed proposal criteria will be available online at <http://www.aqmd.gov/grants-bids> following Board approval on May 1, 2015.

Outreach

In accordance with SCAQMD's Procurement Policy and Procedure, a public notice advertising the RFQs and inviting bids will be published in the Los Angeles Times, the Orange County Register, the San Bernardino Sun, and Riverside County's Press Enterprise newspapers to leverage the most cost-effective method of outreach to the South Coast Basin.

Additionally, potential bidders may be notified utilizing SCAQMD's own electronic listing of certified minority vendors. Notice of the RFQs will be emailed to the Black and Latino Legislative Caucuses and various minority chambers of commerce and business associations, and placed on the Internet at SCAQMD's website (<http://www.aqmd.gov>) where it can be viewed by making the selection "Grants & Bids."

Proposal Evaluation

Proposals received will be evaluated by applicable diverse panels of technically-qualified individuals familiar with the subject matter of the project or equipment and may include outside public sector or academic community expertise.

Attachment

Report of RFQs Scheduled for Release in May 2015

**May 1, 2015 Board Meeting
Report on RFQs Scheduled for Release on May 1, 2015**

**(For detailed information visit SCAQMD's website at
<http://www.aqmd.gov/rfp/index.html> following Board approval on May 1, 2015)**

REQUESTS FOR QUALIFICATIONS - Prequalified Vendor List

RFQ #Q2015-17 Establish List of Prequalified Vendors for
Compressed Gases and Cryogenic Liquids

MIYASATO/3240

The SCAQMD uses compressed pure gases and cryogenic liquids for sampling and analysis of air pollutants. The expenditure for the compressed gases and cryogenic liquids is estimated to be \$125,000 annually. The funds for the purchase of pure gases and cryogenic liquids are in part from the U.S. EPA. This RFQ is issued to identify and prequalify vendors interested in providing compressed pure gases and or cryogenic liquids to SCAQMD from July 1, 2015 through June 30, 2016. Under this RFQ, there are two (2) categories of products. They are (1) Compressed Pure Gases and (2) Cryogenic Liquids. Vendors may elect to quote for either one or both categories. The price quotations will be fixed without exception from July 1, 2015 until June 30, 2016.

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 18

PROPOSAL: Status Report on Major Projects for Information Management
Scheduled to Start During Last Six Months of FY 2014-15

SYNOPSIS: Information Management is responsible for data systems management services in support of all SCAQMD operations. This action is to provide the monthly status report on major automation contracts and projects to be initiated by Information Management during the last six months of FY 2014-15.

COMMITTEE: No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

JCM:MAH:OSM:nv

Background

Information Management (IM) provides a wide range of information systems and services in support of all SCAQMD operations. IM's primary goal is to provide automated tools and systems to implement Board-approved rules and regulations, and to improve internal efficiencies. The annual Budget specifies projects planned during the fiscal year to develop, acquire, enhance, or maintain mission-critical information systems.

Summary of Report

The attached report identifies each of the major projects/contracts or purchases that are expected to come before the Board between January 1 and June 30, 2015. Information provided for each project includes a brief project description, FY 2014-15 Budget, and the schedule associated with known major milestones (issue RFP/RFQ, execute contract, etc.).

Attachment

Information Management Major Projects for Period January 1 through June 30, 2015

ATTACHMENT
May 1, 2015 Board Meeting
Information Management Major Projects
for the Period of January 1 through June 30, 2015

Item	Brief Description	Budgeted Funds	Schedule of Board Actions	Status
Systems Development, Maintenance and Support	Provide Development, Maintenance and Support for: <ul style="list-style-type: none"> • Web Application Development • E-Commerce Infrastructure • CLASS System Replacement • CLASS System(s) Enhancements • Version Upgrades 	\$464,500	April 3, 2015	Completed
Issue RFP for Purchase of Conference Room Enhancements	The audio visual upgrade project for conference rooms GB and Hearing Board will enhance functionality of both conference rooms.	To be budgeted	April 3, 2015	Completed
Issue RFP for Evaluation/Improvement of SCAQMD's Website	Issue RFP to solicit bids from qualified firms to evaluate the current website and make recommendations for improvements.	TBD	May 1, 2015	On Schedule

Double-lined Rows - Board Agenda items current for this month

Shaded Rows - activities completed

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 20

REPORT: Administrative Committee

RECOMMENDED ACTION:
Receive and file.

Dr. William A. Burke, Chair
Administrative Committee

GC

Attendance: Attending the April 10, 2015 meeting were Committee Members Dennis Yates and Judith Mitchell at SCAQMD headquarters, and Dr. William Burke and Dr. Clark E. Parker, Sr. via videoconference. Supervisor Janice Rutherford also observed at SCAQMD headquarters.

ACTION/DISCUSSION ITEMS:

1. **Board Members' Concerns:** None
2. **Chairman's Report of Approved Travel:** Executive Officer Barry Wallerstein reported that Councilmember Judith Mitchell will be traveling to Sacramento to meet with State Legislators and will also be attending the monthly CARB Board meeting.
3. **Approval of Compensation for Board Member Assistant(s)/Consultant(s):** None to report.
4. **Report of Approved Out-of-Country Travel:** None to report.

5. **Board Member Workload and Board Consultant/Assistant Stipend Amounts:** Dr. Wallerstein advised that Dr. Burke preferred to send this item to the Personnel Committee for a more detailed discussion and then bring it back to the Administrative Committee for consideration.
6. **Authorize the Executive Officer to Execute an Indemnification Agreement with Phillips 66 Company:** General Counsel Kurt Wiese reported that this item is to authorize the Executive Officer to sign an indemnification agreement with Phillips 66 that requires Phillips 66 to reimburse the District's legal fees and costs associated with a CEQA lawsuit brought by environmental groups that challenges the District's approval of a crude oil storage project at the Los Angeles/Carson refinery. Under District Rule 301(aa), Phillips 66 is required to reimburse the District for its legal fees and costs in the litigation; however, an indemnification agreement is required that must be authorized by the Administrative Committee. Staff has negotiated such an agreement with Phillips 66 and they have signed the agreement. Staff is seeking authorization for the Executive Officer to sign the agreement on behalf of the District.

Moved by Mitchell; seconded by Yates; unanimously approved.

7. **Adopt Executive Officer's FY 2015-16 SCAQMD Budget and Work Program and Authorize Mid-Year Budget Adjustments, Transfers, Purchase of Vehicles, and Hearing Board Compensation:** Dr. Wallerstein advised that there would be a Board Budget Workshop following the Administrative Committee meeting where staff will present the budget in more detail. He recommended that the Committee ask for public comment and only have staff present the budget once at the Board Budget Workshop. Dr. Burke inquired whether there was any public comment. There being none, the Committee agreed that the information related to this item would be presented at the budget workshop.
8. **Report of RFQs Scheduled for Release in May:** Chief Financial Officer Michael O'Kelly reported that this item requests the release of an RFQ to create a list of prequalified vendors for compressed gases and cryogenic liquids.

Moved by Yates; seconded by Mitchell; unanimously approved.

9. **Issue RFP for CEQA Documentation Support to Prepare Program Environmental Impact Report for 2016 AQMP and Other CEQA-related Tasks:** Deputy Executive Officer Elaine Chang reported that this item is to solicit consultant assistance for the 2016 AQMP CEQA preparation. Staff is requesting \$125,000 for this purpose and will come back to the Committee at a later date if more funds are needed for additional CEQA support.

Moved by Yates; seconded by Mitchell; unanimously approved.

10. **Recognize Revenue and Appropriate Funds for PM2.5 Monitoring Program and Issue Purchase Orders for Air Monitoring Equipment and CNG Vehicle:** Deputy Executive Officer Matt Miyasato reported that this item is to recognize funds from U.S. EPA in support of the PM2.5 Monitoring Program and to purchase air monitoring equipment and a program support vehicle.

Moved by Yates; seconded by Mitchell; unanimously approved.

11. **Issue RFP for Evaluation and Improvement of SCAQMD's Website:** Assistant Deputy Executive Officer Chris Marlia reported that this item is to issue an RFP to solicit bids from qualified firms to evaluate the current website, make recommendations for improvements, and upon approval, implement those improvements. Dr. Wallerstein added that once the proposals are received, the highest-ranked proposers will be brought before the Committee to select which firm would be best to perform the work.

Moved by Mitchell; seconded by Yates; unanimously approved.

12. **Execute Lease Contract for Mailing Equipment:** Assistant Deputy Executive Officer Bill Johnson reported that this item is to request authorization to execute a five-year lease agreement with Neopost Southwest District for mailing equipment.

Moved by Mitchell; seconded by Yates; unanimously approved.

13. **Establish New Position Classification of Career Development Intern:** Mr. Johnson reported that at the request of the Los Angeles County Board of Supervisors staff developed a new classification for Career Development Intern. In the FY 2015-16 budget two positions are proposed to develop job training skills for youth emancipated from the foster care system that will enable them to become more competitive in the open job market. The positions will be tied to one of possibly six existing classifications. Dr. Burke inquired whether anyone had spoken to Supervisor Antonovich about developing only two positions and asked what the cost is to fund each position. Mr. Johnson responded that the fully burdened cost is approximately \$65,000 per person. Dr. Wallerstein added that he would be happy to speak with Supervisor Antonovich and clarified that the positions are not like the annual summer interns, but they would be temporary full-time employees performing duties for which they would not otherwise qualify, which experience would allow them to qualify for employment either here or elsewhere for a permanent full-time job in one of the various types of work that is being offered with this classification. Dr. Burke recommended that the Committee establish the classification and directed staff to speak with Supervisor Antonovich for his approval of the number of positions.

Dr. Wallerstein commented that the positions will be part of the budget presented at the May Board meeting.

Moved by Mitchell; seconded by Yates; unanimously approved.

14. **Local Government & Small Business Assistance Advisory Group Minutes for the January 16, 2015 Meeting (written report):** Attached for information only are the minutes from the January 16, 2015 meeting of the Local Government & Small Business Assistance Advisory Group.
15. **Environmental Justice Advisory Group Minutes from the October 22, 2014 and January 30, 2015 meetings (written report):** Attached for information only are the draft minutes from the October 22, 2014 meeting and the approved minutes from the January 30, 2015 meeting of the Environmental Justice Advisory Group.
16. **Review of the May 1, 2015 Governing Board Agenda:** Dr. Wallerstein mentioned that staff is planning to release the final MATES IV document.
17. **Other Business:** None
18. **Public Comment:** None

Meeting adjourned at 10:20 a.m.

Attachments

Local Government & Small Business Assistance Advisory Group Minutes from the January 16, 2015 Meeting

Environmental Justice Advisory Group Minutes from the October 22, 2014 and January 30, 2015 Meetings.

SPECIAL MEETING – April 3, 2015

A Special Meeting of the Administrative Committee was held on April 3, 2015 principally to interview candidates for the SCAQMD Hearing Board.

Attendance: Attending the April 3, 2015 meeting were Committee Members Dr. William Burke, Dennis Yates, Judith Mitchell and Dr. Clark Parker at SCAQMD headquarters.

MAY AGENDA ITEM:

1. **Appoint Members to SCAQMD Hearing Board:** Clerk of Boards Sandra McDaniel reported that the current terms of office for the Attorney and Engineer Hearing Board Members and their Alternates will expire on June 30, 2015. An Advisory Committee reviewed 39 resumes, interviewed nine candidates, and recommended the top three attorney candidates and top three engineer candidates for interviews and final recommendation by the Administrative Committee. The Committee conducted the interviews for the Attorney Member and Alternate and recommended Julie Prussack be reappointed as the Attorney Member and Douglas W. Lofgren reappointed as the Alternate Member.

Moved by Yates; seconded by Parker; unanimously approved.

The Committee conducted the interviews for the Engineer Member and the Alternate and recommended Edward Camarena be reappointed as the Engineer Member and Thomas J. McCabe, Jr. reappointed as the Alternate.

Moved by Yates; seconded by Mitchell; unanimously approved.

2. **Public Comment:** None

Meeting adjourned at 12:55 p.m.



South Coast Air Quality Management District

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LOCAL GOVERNMENT & SMALL BUSINESS ASSISTANCE ADVISORY GROUP FRIDAY, JANUARY 16, 2015 MEETING MINUTES

MEMBERS PRESENT:

Dennis Yates, Mayor, City of Chino and LGSBA Chairman
Ben Benoit, Councilman, City of Wildomar and LGSBA Vice Chairman
Paul Avila, P.B.A. & Associates
Geoffrey Blake, Metal Finishers of Southern California/All Metals
Todd Campbell, Clean Energy
Rita Loof, RadTech International
Mary Ann Lutz, Mayor, City of Monrovia
David Rothbart, Los Angeles County Sanitation District

MEMBERS ABSENT:

Felipe Aguirre
John Hill, Riverside County Representative
Maria Elena Kennedy, Kennedy Communications
Kelly Moulton, Paralegal
Lupe Ramos Watson, Councilmember, City of Indio

OTHERS PRESENT:

Earl Elrod, Board Member Assistant (*Yates*)

SCAQMD STAFF:

Derrick J. Alatorre, Asst. Deputy Executive Officer/Public Advisor
Guillermo Sanchez, Senior Manager, Legislative and Public Affairs
Nancy Feldman, Principal Deputy District Counsel
Carol Gomez, Planning & Rules Manager
Kathryn Higgins, Program Supervisor
Elaine-Joy Hills, AQ Inspector II
Henry Hogo, Asst. Deputy Executive Officer
Lori Langrell, Secretary
Dean Saito, Fleet Rule Implementation Manager

Agenda Item #1 - Call to Order/Opening Remarks

Mayor Dennis Yates called the meeting to order at 11:30 a.m.

Agenda Item #2 – Approval of December 12, 2014 Meeting Minutes/Review of Follow-Up/Action Items

Chair Yates called for approval of the December 12, 2014 meeting minutes. The Minutes were approved unanimously.

Agenda Item #3 –Review of Follow-Up/Action Items

Mr. Derrick Alatorre indicated that there were no follow-up or action items that arose out of the December 12, 2014 meeting.

Agenda Item #4 – Enhanced Fleet Modernization Program (EFMP) and Expanded Community Outreach

Mr. Dean Saito provided a presentation on the Enhanced Fleet Modernization Program (EFMP) and outreach efforts targeting high-emitting vehicles in disadvantaged communities.

Mr. Paul Avila asked if the program is similar to the Cash for Clunkers program. Mr. Saito responded no, Cash for Clunkers was a federal program to stimulate the purchase of cars. The EFMP program is a bond, AB 118, and cap & trade funded program that allows low and middle-income individuals to purchase used or new clean advanced fuel vehicles with incentive money.

Mr. Geoff Blake inquired how old the car being traded in has to be. Mr. Saito replied that there is no model year requirement, but model year 2000 or older is more likely. Mr. Blake further asked what the average value of a used vehicle eligible for purchase is. Mr. Saito indicated that they looked at a 2008 model year conventional hybrid, which was valued at approximately \$10,000-\$11,000.

Mr. Paul Avila asked if the program would be administered here at the District, or a separate office. Mr. Saito indicated the governing board approved the award contracts to four vendors to help implement the program, but the vouchers will be issued here at the District to consumers.

Mr. Todd Campbell inquired regarding limitations on the eligibility of low-carbon transportation type incentives to high mileage vehicles, plug-in hybrids, and zero-emission vehicles. Mr. Saito indicated that Air Resources Board (CARB) sets the guidelines for the program which is being funded by cap and trade dollars. In the initial guidelines, natural gas vehicles are not included. Mr. Saito had proposed to more broadly include alternative fuel vehicles; however, CARB decided not to include them. Mr. Campbell asked if Mr. Saito knew the basis, which Mr. Saito indicated that it was due to an emphasis on greenhouse gas reductions.

Councilman Ben Benoit asked whether there will be any vendor working in Coachella. Mr. Saito responded that one of the vendors will be working in the Coachella Valley, with the California Community College Foundation. In order to be eligible for funding through the EFMP, the purchaser must be within a disadvantaged community.

Mr. Avila asked if this program is for purchase only. Mr. Saito replied yes, for purchase of a newer model, and scrapping of old cars. Mr. Avila asked if the incentive is available if you take an older car and install modern technology, for example placing an all-electric plug-in motor in your older vehicle. Mr. Saito responded that it may be possible, but the engine would have to be recognized by Department of Motor Vehicles.

Agenda Item #5 –Implementation of AB 2766 Requirements

Ms. Kathryn Higgins provided a presentation on the FY 2012-2013 AB2766 Subvention Fund Program emission reduction and financial activity reported by local governments.

Ms. Rita Loof asked for an example of a program under the public education category. Ms. Higgins replied the Clean Cities project in Riverside County, in conjunction with Western Riverside Council of Governments (WRCOG), wherein they educate the public on emerging technology, advanced fuel vehicles, as well as propane gardening equipment and natural gas trucks.

Mr. Avila asked what falls under the category of land use. Ms. Higgins indicated that category relates to the development of policies and programs to reduce trips and indirectly reduce emissions, including walkable communities and transit-oriented development. Mr. Avila asked if it is harder for the small cities to work with their respective county. Ms. Higgins responded that it is difficult only because they may only get about \$2,000 per year, and tend to save their money toward a specific project for years.

Agenda Item #5 – Local Government & Small Business Assistance Advisory Group 2014 Accomplishments/2015 Goals & Objectives

Chair Yates indicated the Goals & Objectives are included in the packet and are adopted.

Agenda Item #5 –Monthly Report on Small Business Assistance Activities

No comments.

Agenda Item #6 - Other Business

Ms. Loof asked when the presentation on the ASTM conference would be available. Mr. Alatorre indicated that perhaps by March but he will check on the status.

Action Item: Check status on when ASTM Conference presentation can be given to the Advisory Group.

Agenda Item #7 - Public Comment

No comments.

Adjournment

The meeting adjourned at 12:02 p.m.



South Coast Air Quality Management District

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ENVIRONMENTAL JUSTICE ADVISORY GROUP WEDNESDAY, OCTOBER 22, 2014 MEETING MINUTES

MEMBERS PRESENT:

Dr. Joseph Lyou, AQMD Governing Board Member, EJAG Chairman
Rhetta Alexander, San Fernando Valley Interfaith Council
Dr. Lawrence Beeson, Loma Linda University, School of Public Health
Judy Bergstresser, Member of the Public
Arnold Butler, Inglewood Unified School District
Paul Choe, Korean Drycleaners & Laundry Association
Rudy Gutierrez, Member of the Public
Maria Elena Kennedy, Quail Valley Task Force
Evelyn Knight, Long Beach Economic Development Commission
Daniel Morales, National Alliance for Human Rights
William Nelson, OC Signature Properties
Rafael Yanez, Member of the Public

MEMBERS ABSENT:

Micah Ali, Compton Unified School District
Suzanne Bilodeau, Knott's Berry Farm
Alycia Enciso, Small Business Owner
Mary Figueroa, Riverside Community College
Dr. Afif El-Hasan, American Lung Association
Andrea Hricko, Southern California Environmental Health Sciences
Angelo Logan, East Yard Communities for Environmental Justice
Msgr. John Moretta, Resurrection Church
Lizette Navarette, University of California, Riverside
Woodie Rucker-Hughes, NAACP – Riverside Branch
Brenda Threatt, S. Los Angeles Service Representative for L.A. Mayor

OTHERS PRESENT:

Mark Abramowitz, Board Member Assistant (*Lyou*)
Earl Elrod, Board Member Assistant (*Yates*)
Kris Flaig, City of Los Angeles, Sanitation Department

SCAQMD STAFF:

Nancy Feldman, Principal Deputy District Counsel
Philip Fine, Assistant DEO
Lori Langrell, Secretary
Lisa Tanaka O'Malley, Community Relations Manager
Jill Whynot, Assistant DEO

Agenda Item #1 - Call to Order/Opening Remarks

Chair Dr. Joseph Lyou called the meeting to order at 12:31 PM.

Chair Lyou announced that tomorrow, October 23, 2014, the California Air Resources Board (CARB) will have a demonstration here at the District in the parking lot, showcasing the largest amount of alternative fuel vehicles.

Agenda Item #2 – Approval of January 24, 2014 Meeting Minutes

Chair Lyou called for the approval of the meeting minutes. The July 25, 2014 meeting minutes were approved.

Agenda Item #3 – Review of Follow-Up/Action Items

Ms. Lisa Tanaka O'Malley reviewed the action items from the July 25, 2014 meeting. Ms. O'Malley advised that a presentation on personal air monitoring, and the status of LNG/Tier 4 locomotives will be agendaized for the January meeting.

Agenda Item #4 – Member Updates

Mr. Rudy Gutierrez inquired regarding the status of the Burrtec project in the Coachella Valley and their desire to expand. Dr. Lyou asked if this project is situated on county property, to which Mr. Gutierrez indicated he believed it is Riverside County property leased to Burrtec. Dr. Lyou advised under the CEQA act, Mr. Gutierrez can request notification if he wants to remain informed of activities on the property.

Mr. Gutierrez also inquired about the Salton Sea. Dr. Fine indicated that there is an article in today's Los Angeles Times which reported on receding shorelines and potential for dust exposure. He further indicated that in the next few years, the inflows to the sea are scheduled to be curtailed and, the goal is to find the best way to mitigate the potential effects of the receding shoreline. Dr. Fine explained that only 15% of the Salton Sea is in the SCAQMD's jurisdiction. He further indicated that there is a monitoring network around the sea, including a new SCAQMD monitor in Mecca. Dr. Fine stated that SCAQMD is monitoring hydrogen sulfide by the sea, and short term spikes have picked up recently. Dr. Fine briefly discussed strong wind events which can cause the sea to "turn over" bringing nutrient dense water to the surface which can release hydrogen sulfide and create odor events.

Agenda Item #5 – Draft 2015 Environmental Justice Advisory Group Goals & Objectives

Ms. O'Malley presented the draft 2015 Goals & Objectives to the group.

Ms. Rhetta Alexander inquired if a presentation on alternative energy and its' relationship to air quality could be added to the Goals & Objectives.

***Action Item:** Add alternative energy and its' relationship to air quality to the 2015 Goals & Objectives.*

Dr. Lyou requested to add the California Air Resources Board Sustainable Freight Plan to the update on the Diesel Risk Reduction Plan. Dr. Lyou also asked that we add a presentation on SB 535 (De Leon) and AB 32 revenue, focused on disadvantaged communities.

***Action Item:** Add the CARB Sustainable Freight Plan to the update on the Diesel Risk Reduction Plan and add a presentation SB 535 (De Leon) and AB 32 in relation to disadvantaged communities.*

Mr. Daniel Morales asked if the group can prioritize the order of the goals and objectives for the year. Dr. Lyou asked that a member survey be conducted before the next meeting, highlighting the top five (5) topics of interest for EJAG members.

***Action Item:** Conduct a survey of the EJAG members to ascertain their top five (5) topics of interest from the 2015 Goals & Objectives.*

Agenda Item #6 –MATES IV

Dr. Fine provided an overview of the Multiple Air Toxics Exposure Study (MATES IV).

Mr. Arnold Butler asked if there is corresponding reduction in cancer rates as the levels of air pollution go down. Dr. Lyou indicated that scientifically it is hard to correlate specific cancer rate reductions unless you have a toxin related to a specific cancer (for example, asbestos – mesothelioma). Mr. Butler stated that students in school are increasingly experiencing respiratory problems and he asked if there is anything that can be done in this area. Dr. Fine indicated that there is a lot of work that has been done and is still in progress including the USC Children’s Health study and follow-ups which correlates asthma and lung function with air quality. Dr. Lyou also mentioned that in the future personal air monitoring devices may provide individuals with a means to determine air pollution levels and reduce their exposure by moving away from affected areas.

There was some discussion on how the MATES IV data was collected. Dr. Fine stated that the modeled data is corroborated with actual measurements on the ground. Dr. Lyou noted that whole industries such as the dry cleaners have made great strides to reduce or eliminate use of toxic chemicals such as perchloroethylene (PERC). He further stated that the dry cleaning industry should be commended for their actions to comply with regulations to reduce toxics in the environment. Mr. Paul Choe added that approximately 700 dry cleaners went out of business in 2007-2008 due to the economic downturn, which helped with the retiring of PERC equipment.

Ms. Judy Bergstresser asked for clarification on what is considered an off-road mobile source. Dr. Fine replied that mobile sources include off road construction equipment, trains, planes, ships, recreational vehicles, forklifts, and other types of moving vehicles.

Mr. Morales asked if SCAQMD has role in approving the World Logistics Center which is proposed to be built in Moreno Valley. Dr. Fine indicated that in general, SCAQMD’s CEQA group reviews environmental impact reports (EIR’s) for projects such as the World Logistics Center and will provide comments to the lead agency. SCAQMD’s comments may request additional data, ask questions about air quality related calculations or make suggestions to reduce air quality impacts. Dr. Lyou also indicated that SCAQMD has been contemplating a rule on indirect sources which might require facilities that attract mobile sources to implement mitigation measures to reduce air pollution.

Mr. Kris Flaig inquired if there are current or future technologies that can be employed to reduce toxics from heavy duty diesel mobile sources such as diesel particulate filters (DPF). Dr. Fine indicated that DPF’s will reduce toxics and particulate matter from heavy duty diesel sources such as trucks and back-up generators. He also stated that, the SCAQMD Science & Technology Advancement office issues an annual report which includes current and future air pollution reduction technologies.

Mr. Flaig asked if SCAQMD was only focused on diesel trucks as opposed to other types of vehicles and passenger cars. Dr. Fine replied that all types of mobile sources including passenger vehicles must get cleaner to meet air quality standards. Dr. Lyou indicated that by 2023 and 2032, the South Coast Air Basin must reach federal air attainment standards, which translates into a two-thirds reduction by 2023, and three-quarters reduction by 2032. Dr. Fine added that public transit agencies such as Metro have

already converted to cleaner burning natural gas for their buses, and that there is a project with Metrolink to utilize less polluting commuter trains.

Ms. Alexander asked if hydrogen fuel cell vehicles will be an option for drivers. Dr. Fine indicated that there is a new model coming from Toyota next year and that there are several other manufacturers with cars either currently available or in the near future. Mr. Butler asked if cities are being given incentives to build infrastructure to support hydrogen fuel cell vehicles. Dr. Lyou responded that the California Air Resources Board (CARB) in conjunction with other stakeholders has developed an infrastructure plan. Mr. Mark Abramowitz added that 50 new hydrogen fueling stations will be built by the end of 2015.

Agenda Item #7 – Overview of Check Before you Burn

Dr. Fine presented an overview of the Check Before you Burn program.

Ms. Alexander asked if you must reside in one of the targeted areas to participate in the incentive program for cleaner burning fireplace devices. Dr. Fine affirmed that the incentive program is only designated areas, including the Mira Loma – Jurupa communities, due to the air quality issues in those areas.

Mr. Gutierrez inquired if farmers, for example in the Coachella Valley, are allowed to burn for the sake of their crops. Dr. Fine indicated that the SCAQMD has been working with the farmers on less polluting frost prevention methods to protect their crops. He added that farmers are only allowed to burn after receiving a permit from SCAQMD and under certain conditions. Mr. Gutierrez asked if the community can be alerted when there is a burn, so residents can take measures to reduce their exposure to the smoke. Dr. Fine indicated he will follow-up with staff on burn alerts for frost prevention.

***Action Item:** Follow-up with staff on an alert for residents in the Coachella Valley during frost prevention burns.*

Mr. Morales asked if information on the fireplace vouchers incentive program is available on the SCAQMD website. Dr. Fine replied that there is information on the SCAQMD website and that there is funding available. Mr. Morales further asked if beach fire rings were included in the Check Before You Burn program. Dr. Fine indicated that there has been some confusion between the two programs, but that under certain circumstances a no-burn alert can be called for the beach fire rings.

Agenda Item #8 – Other Business

Dr. Lyou reminded the group again about the CARB meeting and alternative fuel car showcase being held at SCAQMD. Dr. Lyou also indicated that the 2015 meeting date handout was on the table, and for everyone to please place these dates on their calendar.

Agenda Item #9 – Public Comment

No comments.

Agenda Item #10 – Adjournment

The meeting adjourned at 2:15 PM.



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DRAFT

ENVIRONMENTAL JUSTICE ADVISORY GROUP FRIDAY, JANUARY 30, 2015 MEETING MINUTES

MEMBERS PRESENT:

Dr. Joseph Lyou, AQMD Governing Board Member, EJAG Chairman
Rhetta Alexander, San Fernando Valley Interfaith Council
Dr. Lawrence Beeson, Loma Linda University, School of Public Health
Judy Bergstresser, Member of the Public
Suzanne Bilodeau, Knott's Berry Farm
Arnold Butler, Inglewood Unified School District
Paul Choe, Korean Drycleaners & Laundry Association
Mary Figueroa, Riverside Community College
Rudy Gutierrez, Member of the Public
Maria Elena Kennedy, Quail Valley Task Force
Evelyn Knight, Long Beach Economic Development Commission
Daniel Morales, National Alliance for Human Rights
Msgr. John Moretta, Resurrection Church
Rafael Yanez, Member of the Public

MEMBERS ABSENT:

Micah Ali, Compton Unified School District
Alycia Enciso, Small Business Owner
Dr. Afif El-Hasan, American Lung Association
Andrea Hricko, Southern California Environmental Health Sciences
Angelo Logan, East Yard Communities for Environmental Justice
Lizette Navarette, University of California, Riverside
William Nelson, OC Signature Properties
Woodie Rucker-Hughes, NAACP – Riverside Branch
Brenda Threatt, S. Los Angeles Service Representative for L.A. Mayor

OTHERS PRESENT:

Mark Abramowitz, Board Member Assistant (*Lyou*)
Earl Elrod, Board Member Assistant (*Yates*)

SCAQMD STAFF:

Derrick Alatorre, Assistant DEO
Nancy Feldman, Principal Deputy District Counsel
Susan Nakamura, Director of Strategic Initiatives
Lisa Tanaka O'Malley, Community Relations Manager
Dean Saito, Fleet Rule Implementation Manager
Laki Tisopulos, Assistant DEO
Daniel Wong, Secretary

Agenda Item #1 - Call to Order/Opening Remarks

Chair Dr. Joseph Lyou called the meeting to order at 12:02 PM.

Chair Lyou reminded the committee to submit their survey list of priorities for 2015. Chair Lyou invited the committee to attend the SCAQMD Environmental Justice Conference on February 27th in Downtown Los Angeles.

Agenda Item #2 – Approval of October 23, 2014 Meeting Minutes

Chair Lyou called for the approval of the meeting minutes. The October 23, 2014 meeting minutes were approved.

Agenda Item #3 – Review of Follow-Up/Action Items

Mr. Derrick Alatorre reviewed the action items from the October 23, 2014 meeting.

- 1.) Added to 2015 Goals and Objectives – Alternative Energy and its relationship to air quality.
- 2.) Added to 2015 Goals and Objectives – CARB Sustainable Freight Plan to the update on the Diesel Risk Reduction Plan and add a presentation SB 535 (De Leon) and AB 32 in relation to disadvantaged communities.
- 3.) Completed – Conducted a survey of the EJAG members to ascertain their top five (5) topics of interest from the 2015 Goals & Objectives. Five responses have been received from EJAG members.
- 4.) Follow-up with staff on an alert for residents in the Coachella Valley during frost prevention burns. Alerts currently go out to local schools during frost prevention burns.

Agenda Item #4 – Member Updates

Chair Lyou informed the group that issues regarding the Salton Sea were brought up at recent Governing Board meeting, as well as interest expressed from public groups regarding upcoming Air Quality Management Plan (AQMP) meetings. Mr. Alatorre informed the group that AQMP meetings were currently being planned for each county within the district. Once planned, a list will be circulated to the group.

***Action Item:** Once scheduled, staff will distribute information on meetings related to the AQMP to the members of EJAG.*

Ms. Rhetta Alexander informed the group about curriculum on climate change that is being distributed by Progressive Christians Uniting.

***Action Item:** Chair Lyou requested that the link be shared with the group:
<http://pcu-la.org/PCU/ClimateChangeAndFaith.html>*

Mr. Daniel Morales gave an update on an issue he brought up in October 2014 regarding diesel truck traffic issues in the City of Colton. He will continue to provide the group with updates.

Ms. Mary Figueroa gave an update regarding the newly approved Prologis logistics facility in the City of Moreno Valley. A major increase in truck-traffic is expected.

Mr. Rudy Gutierrez provided an update regarding the Burrtec composting facility operating in the Coachella Valley. Residents are expecting an increase in vehicle traffic as well as an increase in onsite green waste storage.

Mr. Dean Saito informed the group that he has been in consultation with Burrtec to use the new compressed natural gas (CNG) station located in Coachella for fueling of their fleet, in compliance with SCAQMD fleet rules.

Agenda Item #5 – Update on Emerging Personal and Community Based-Monitoring Technologies

Dr. Laki Tisopulos provided an overview of emerging personal and community based monitoring technologies.

Mr. Yanez suggested that source test information should be made readily available to the public via our Facility Information Detail (FIND) application. Mr. Yanez also suggested that the public should be informed on which air monitor would work for certain issues and under specific conditions. Additionally, he voiced concern over the sensitivity and reliability issues of personal monitors.

Chair Lyou suggested that type of technology might be useful to refineries to self-identify problems before they become compliance issues. Laser technology may even help refineries pinpoint within a few feet where fugitive emissions are coming from in the facility. Dr. Tisopulos stated that the Governing Board would be considering a fence line laser monitoring system at the next monthly meeting.

Dr. Tisopulos indicated that the monitors in this program are low cost and not as advanced in technology, but will improve over time. Dr. Tisopulos is anticipating completion of the testing center by the end of March.

Dr. Lyou stated that the monitors would have been helpful in situations such as the fire at the Port of Los Angeles. He indicated that during the fire, students were outside and potentially exposed to toxic emissions. Dr. Lyou suggested that a community monitoring system could have alarmed the schools to keep the students inside their classrooms.

Mr. Gutierrez brought up that the monitors are useful, but what is a resident supposed to do with the information. Dr. Tisopulos indicated that one of the goals for the monitors is to prevent air quality events before an incident occurs.

Dr. Lyou asked for Agenda Item #7 to be discussed next due to a scheduling conflict with presenting staff.

Agenda Item #7 – Overview of Enhanced Fleet Modernization Program (EFMP)

Mr. Saito provided an overview of the EFMP program which provides incentives for low and middle-income consumers to scrap older, higher polluting vehicles and purchase cleaner advanced technology vehicles.

Ms. Evelyn Knight asked how cultural issues would be incorporated into the program outreach. For example, there are communities in Long Beach that would need special outreach to reach residents. Chair Lyou suggested that Ms. Knight work with Mr. Saito to ensure these communities are reached.

Dr. Lyou asked Dean about the purpose of the EFMP program. Mr. Saito indicated that the goal of the program is to retire the legacy or older fleet to reduce air pollution. Ms. Knight stated that she would be glad to provide input into the program outreach.

Ms. Maria Elena Kennedy expressed concern that used advanced technology cars can be expensive to operate and maintain. She provided the example of tires for a hybrid which need to be special ordered. Mr. Saito indicated that the costs for a conventional hybrid are similar to a regular vehicle. Ms.

Kennedy suggested that low-income consumers need to be educated on the maintenance of these advanced technology vehicles, so potential buyers are aware of all these issues including charging. Mr. Saito stated that the state Legislature may be providing funding for home charging stations. Mr. Yanez indicated that there are costs beyond the charging station such as the wiring and panel.

Mr. Yanez asked if the EFMP program is an invitation only program. Dr. Saito indicated that the SCAQMD contractors are developing outreach models to attract people to participate in the program.

Ms. Figueroa stated that this program is a total mindset change for these low-income families. She further stated that these families have higher priorities such as food, shelter and basic necessities. Ms. Figueroa indicated that these families are driving these older cars not because they want to pollute the air, but because they don't have another choice. Chair Lyou indicated that a similar program in northern California has been successful. Mr. Arnold Butler added that many of these low-income families are not financially literate, so disclosure is critical.

Agenda Item #6 – Update on 2015 Toxics Rule

Ms. Susan Nakamura provided an update on SCAQMD rules and regulations related to toxics, including the Office of Environmental Health Hazard Assessment (OEHHA) Risk Guidelines.

Mr. Butler asked if SCAQMD was involved with the reform of CEQA. Ms. Nakamura indicated that SCAQMD has been involved in discussions related to CEQA; but, was not aware of any specific legislative proposals. Dr. Lyou indicated that the CEQA proposals have come up numerous times in the Legislature, although none of the proposals have been successful.

Ms. Rhetta Alexander inquired about Rule 1148.2 related to fracking and any opposition by the operators. Ms. Nakamura indicated that SCAQMD has received information from operators, but sometimes the data is not complete and Notices of Violation have been issued. Ms. Alexander asked if the rule was already in place. Ms. Nakamura stated that there is a portal on the SCAQMD website that provides the data to the public.

Ms. Alexander asked if the chemicals used from site to site are similar. Ms. Nakamura indicated that initially 15 wells were active, but since then there has not been fracking. She indicated that there are other processes such as acidizing or gravel packing, but that there has been a significant tapering of activity.

Monsignor Moretta inquired about the new OEHHA Risk Assessment guidelines for toxics. Ms. Nakamura stated that SCAQMD designed Rule 1420.1 to take into account the new stricter health risk assessment guidelines.

Ms. Knight asked about slant drilling. Ms. Nakamura indicated that Rule 1148.2 would address that type of issue and would be brought to the Governing Board later in the year.

Agenda Item #8 – Other Business

Mr. Alatorre reminded the group about the upcoming Environmental Justice Conference on February 27, 2015.

Agenda Item #9 – Public Comment

No comments.

Agenda Item #10 – Adjournment

The meeting adjourned at 2:15 PM.

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 21

REPORT: Legislative Committee

SYNOPSIS: The Legislative Committee met on Friday, April 10, 2015. The next Legislative Committee meeting is scheduled for Friday, May 8, 2015 at the Island Hotel in Newport Beach.

The Committee deliberated on agenda items for Board consideration and recommended the following actions:

Agenda Item	Recommendation
H.R. 1308 (Lowenthal) Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act	Support
SB 513 (Beall) Carl Moyer Memorial Air Quality Standards Attainment Program	Support
SB 350 (De León and Leno) Clean Energy and Pollution Reduction Act of 2015	Actively Monitor
AB 335 (Patterson) Air Quality: Minor Violations	Oppose*

*At their April 3, 2015 meeting, the Board was unable to act on the Legislative Committee's recommendation to oppose AB 335 due to a lack of at least 7 votes in support or in opposition to the recommendation. By operation of the Board's procedures, this bill was continued and re-agendized for the May Board meeting.

RECOMMENDED ACTIONS:

1. Adopt the Legislative Committee recommended position on legislation or take other appropriate action.
2. Receive and file this report.

Judith Mitchell
Chair
Legislative Committee

LBS:GSA:PFC:jf

Attendance [Attachment 1]

The Legislative Committee met on April 10, 2015. Committee Chair Judith Mitchell and Committee Member Janice Rutherford were present at SCAQMD's Diamond Bar headquarters. Committee Members Michael Antonovich, Dr. William A. Burke, Joe Buscaino, and Dr. Clark Parker attended via videoconference.

Update on Federal Legislative Issues

SCAQMD federal legislative consultant, Mia O'Connell of the Carmen Group, reported on key Washington, D.C. issues.

Ms. O'Connell reported that Congress will most likely act before May 31 to approve a short-term extension of the MAP-21 transportation reauthorization bill. The exact length of the extension is still undecided. New program and policy language will be deferred until there is a new bill with a consensus on how to secure needed funding.

Ms. O'Connell also reported that the U.S. Environmental Protection Agency (U.S. EPA) recently announced its awards for the 2014 Diesel Emission Reduction Act (DERA) program and SCAQMD received a \$753,476 award for a project to replace: 11 on-road drayage trucks (model year 1991-1995); nine school buses with compressed natural gas (CNG); and one school bus with a battery-electric vehicle. Congressman Ken Calvert provided support for the District's funding application through a letter to the U.S. EPA and follow-up calls.

SCAQMD federal legislative consultant, Mark Kadesh of Kadesh & Associates, also reported on various key Washington, D.C. issues.

Mr. Kadesh reported that in the last week of March the U.S. Senate passed its budget resolution which sets the overall spending caps for appropriations bills, although it does not create new spending authority. Most importantly it allows for reconciliation instructions which only require 51 votes in the Senate. A budget resolution binds Congress only and is not a law.

Mr. Kadesh also reported that the budget resolution debate included scores of non-binding amendments including several dealing with climate change. For example, the Senate passed an amendment “promoting national security, economic growth, and public health by addressing human-induced climate change through increased use of clean energy, energy efficiency, and reductions in carbon pollution.” However, the Senate also passed an amendment that prevents the U.S. EPA from withholding highway funds from states that refuse to submit implementation plans for the U.S. EPA’s upcoming power plant rules. The House and Senate bills are now being conferenced.

Mr. Kadesh stated that in late March the Senate passed a slimmed down version of the Energy Efficiency Improvement Act, S.535 (Portman-Shaheen), now limited to addressing buildings and grid-enabled water heaters. A related bill, S.720, also includes industrial efficiency measures. At the end of April the Senate Energy Committee is scheduled to hold a hearing on S.720 as well as S.703 (covering housing energy efficiency and weatherization) and S.858 (covering energy efficiency in federal buildings).

Update on State Legislative Issues

SCAQMD state legislative consultant, Paul Gonsalves of Joe A. Gonsalves & Son, briefed the Committee on key Sacramento issues.

Mr. Gonsalves reported that the state legislature recently returned from their legislative spring break and that committee hearings are in full swing considering the over 2,500 bills introduced this year. Various upcoming deadlines include: May 1 is the last day for policy committees to hear bills also assigned to an appropriations committee; May 15 is the last day for policy committees to hear non-fiscal bills; May 22 is the last day for policy committees to meet until June 8; May 29 is the last day for appropriations committees to meet until June 8; and June 5 is the last day to get bills out of their house of origin, or they become two-year bills.

Mr. Gonsalves also reported that there are four main issues that the state legislature is currently focused on: the drought, climate change, renewable energy, and the state budget. Governor Jerry Brown recently signed two bills that fast-tracked about \$1 billion for local drought relief and infrastructure projects. The Governor also issued an executive order that initiated the first-ever mandatory water reduction effort throughout the state. This order focused on saving water, increasing enforcement, streamlining governmental response, and investing in new technologies.

Mr. Gonsalves informed the Committee that the state’s revenues are up and will continue to grow over the next few months. Normally, this means more resources for the state budget; however, for this year, this is causing significant problems to the budget due to the Proposition 98 minimum funding guarantee. New revenues have

boosted the guarantee to an almost dollar for dollar level this year. When you combine the Prop. 98 requirements, with the rainy day fund requirements of Prop. 2 that were recently passed, along with local government mandates that are required to be paid back under last year's budget, there are not enough revenues to cover all the costs.

Thus, the legislature will likely have to cut non-Prop. 98 programs to balance this year's budget. Other possible options could be adjusting the Prop. 98 requirements, borrowing from the rainy day fund, or raising taxes. The Governor's May Revise Budget will be coming out and will need to address this issue. Further, the Prop. 30 tax increases expire in 2017-18 and are expected to leave a large hole in the state's budget that will have to be dealt with as well.

SCAQMD state legislative consultant, Will Gonzalez of Gonzalez, Quintana & Hunter, also briefed the Committee on key Sacramento issues.

Mr. Gonzalez agreed that energy and climate change are big topics this year in Sacramento. He reported on SB 350, authored by Senate pro Tempore Kevin De León, which would increase the state's Renewable Portfolio Standard to 50%, reduce petroleum use by 50%, and double energy efficiency in existing buildings. The bill was heard in the Senate Energy Committee recently and passed by an 8-3 vote without any amendments. It is largely supported by environmentalists and energy companies, but also has support from other stakeholders including those from the labor and health sectors, as well as Warren Buffet's Berkshire Hathaway Inc. Opposition includes the oil companies, chambers of commerce, and manufacturers. The big five electric utilities expressed concerns about the bill, but stayed neutral. This bill now moves on to the Senate Environmental Quality Committee.

Mr. Gonzalez explained that the Governor's budget estimated that about \$1 billion in revenue would be generated from the greenhouse gas cap-and-trade auctions that would need to be spent on programs that reduce carbon. However, there is an expectation that there may actually be about \$2 billion in revenue being generated. It will be important to see if the Governor revises his estimates in his May Revise Budget. Consequently, legislators are jockeying to possibly influence how these potentially increased revenues are spent.

It is important to note that the Governor's budget proposed to spend \$200 million for zero and near-zero emission vehicles. The legislature is looking to significantly increase this funding to \$350 million, given the potential doubling of cap-and-trade revenue. It will be important to see if the Governor proposes to spend more than the originally proposed \$250 million on high-speed rail.

Finally, Mr. Gonzalez reported on SB 286 (Hertzberg). This bill would eliminate restrictions on the ability of companies to contract out for power from an energy service

provider other than their utility, through a long-standing program called “direct access,” which was severely limited in the past. The bill has potentially huge implications for air quality. As well it could release a large pent-up demand for power on the open market. The current system would allow for power being gained from any source, whether it’s generated by dirty sources or by renewable sources. Some are proposing to limit this bill to only allow such power to be received from cleaner sources.

Recommend Position on Bills [Attachment 2]

Marc Carrel, Program Supervisor presented on:

H.R. 1308 (Lowenthal) Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act

This bill would dedicate roughly \$8 billion a year to freight-related infrastructure projects throughout the nation, with a focus on intermodal projects and projects that would help relieve bottlenecks in the freight transportation system.

Recommended Position: Support

The Committee discussed whether the “return to source” concept was involved with this bill (whereby monies are spent in the jurisdictions in which they were raised). Staff clarified that it does not directly apply to this bill because the bill involves 50% formula distribution of funds. However, the 50% of grant funding provided for in the bill is awarded for the types of freight-related problems that exist in the South Coast region. The Committee also expressed a desire for local control of the funds provided by this bill, and staff clarified that local and regional agencies such as the South Coast AQMD are eligible to receive such funds. Finally, the Committee discussed whether the passage of this bill might impact the fate of a freight bill introduced by Congresswoman Janice Hahn. Staff suggested that a likely goal of both authors is to have the bills’ content placed into the MAP-21 transportation reauthorization bill.

The Legislative Committee approved staff’s recommendation to SUPPORT H.R. 1308 (Lowenthal).

AYES: Antonovich, Burke, Buscaino, Mitchell, Parker, and Rutherford
NOES: None

Guillermo Sanchez, Senior Public Affairs Manager presented on:

SB 513 (Beall) Carl Moyer Memorial Air Quality Standards Attainment Program

This bill would update and refine the Carl Moyer program to improve program efficiencies and outcomes pursuant to “The Five Pillars” approved by the California Air Resources Board and subsequently adopted by the South Coast AQMD Board in February 2015.

Recommended Position: Support

The Legislative Committee approved staff's recommendation to SUPPORT SB 513 (Beall).

AYES: Antonovich, Burke, Buscaino, Mitchell, Parker, and Rutherford

NOES: None

The Committee discussed the following bill as a follow-up to taking action on it at the March 2015 Legislative Committee meeting:

SB 350 (DeLeón and Leno) Clean Energy and Pollution Reduction Act of 2015

This bill would implement new “50-50-50” benchmark standards by raising California’s Renewable Portfolio Standard (RPS) from 33% to 50%, striving for a 50% reduction in petroleum use, and doubling energy efficiency in buildings by the year 2030.

SCAQMD Executive Officer Dr. Barry Wallerstein added to Mr. Gonzalez’s report on the bill’s recent hearing by recounting events of the April Board meeting regarding Board Member Dr. Joe Lyou’s request to allow the bill to be considered at the May Governing Board meeting for a possible Board position.

Public Comment: Mr. Ronald Stein, who is a small business owner of a staffing agency, gave public comment on SB 350. He expressed his support of SCAQMD’s efforts to monitor the potential impact of the bill. He further expressed opposition to the bill’s proposal to cut petroleum usage by half by 2030, as economically unwise.

Councilmember Buscaino made a motion to reconsider the Legislative Committee’s previous position of SB 350 from “**Actively Monitor**” to “Support.” Dr. Parker seconded the motion.

Ayes: Buscaino, Mitchell, and Parker

Noes: Antonovich, Burke, and Rutherford

The motion failed.

Legislative Committee Action on March 13, 2015 established a position to: Actively Monitor SB 350 (De Leon). This item will be forwarded to the full Board for their consideration.

Report from SCAQMD Home Rule Advisory Group [Attachment 3]

Please refer to Attachment 3 for written report.

Other Business:

None

Public Comment Period:

See public comment under SB 350.

Attachments

1. Attendance Record
2. Bill and Bill Analyses
3. SCAQMD Home Rule Advisory Group Report

ATTACHMENT 1

ATTENDANCE RECORD –April 10, 2015

DISTRICT BOARD MEMBERS:

Dr. William A. Burke (Videoconference)
Councilmember Judy Mitchell, Chair
Supervisor Michael Antonovich (Videoconference)
Councilmember Joe Buscaino (Videoconference)
Dr. Clark E. Parker, Sr. (Videoconference)
Supervisor Janice Rutherford

STAFF TO COMMITTEE:

Lisha B. Smith, Deputy Executive Officer
Derrick Alatorre, Assistant Deputy Executive Officer/Public Advisor
Guillermo Sanchez, Senior Public Affairs Manager
Julie Franco, Senior Administrative Secretary

DISTRICT STAFF:

Barry R. Wallerstein, Executive Officer
Barbara Baird, Chief Deputy Counsel
Elaine Chang, Deputy Executive Officer
Phil Fine, Assistant Deputy Executive Officer
Chris Marlia, Assistant Deputy Executive Officer
Fred Minassian, Assistant Deputy Executive Officer
Matt Miyasato, Deputy Executive Officer
Mohsen Nazemi, Deputy Executive Officer
William Wong, Principal Deputy District Counsel
Leeor Alpern, Senior Public Information Specialist (Videoconference)
Marc Carrel, Program Supervisor
Philip Crabbe, Community Relations Manager
Tina Cox, Senior Public Information Specialist
Nancy Feldman, Principal Deputy District Counsel
Barbara Radlein, AQ Specialist
Greg Rowley, Telecommunications Technician II
Kim White, Public Affairs Specialist
Patti Whiting, Staff Specialist
Rainbow Yeung, Senior Public Information Specialist (Videoconference)

OTHERS PRESENT:

Kris Flaig, City of Los Angeles Sanitation Department
Jason Gonsalves, Joe A. Gonsalves & Son (Teleconference)
Paul A. Gonsalves, Joe A. Gonsalves & Son (Teleconference)
Will Gonzalez, Gonzalez, Quintana & Hunter, LLC (Teleconference)
Stewart Harris, Carmen Group (Teleconference)
Gary Hoitsma, Carmen Group (Teleconference)
Mark Kadesh, Kadesh & Associates (Teleconference)
Chris Kierig, Kadesh & Associates (Teleconference)
Chung Liu, Governing Board Member Consultant (Mitchell)
Rita Loof, RadTech
Margot Malarkey, AAR
Mia O'Connell, Carmen Group (Teleconference)
Andy Silva, Governing Board Consultant (Rutherford)
Ron Stein, PTS Staffing
Lee Wallace, So Cal Gas
Warren Weinstein, Kadesh & Associates (Teleconference)
Peter Whittingham, CP & A

ATTACHMENT 2A

H.R. 1308 (Lowenthal) H.R.1308 -- Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act

Summary:

This bill would dedicate roughly \$8 billion a year to freight-related infrastructure projects throughout the nation, with a focus on intermodal projects and projects that help relieve the bottlenecks in the freight transportation system.

Background:

Freight transportation is an essential part of the global economy. The U.S. freight sector is expected to grow dramatically in the coming years. By 2020, 90.1 million tons per day of freight are expected to move throughout the United States, a 70% increase over 2002.

This freight movement is critical to a robust economy but comes at a high price for the environment and local communities that suffer from its impacts. The freight sector alone represents nearly a quarter of the transportation sector's greenhouse gas emissions, or approximately 8% of total U.S. carbon dioxide emissions. The fine particle pollution from U.S. diesel engines, the most common engines used in freight, is estimated to shorten the lives of nearly 21,000 people each year nationwide.¹ The projected trade increases could place even greater strains on public health and the environment, and add more congestion to the already overburdened and deteriorating highway, rail, and waterway system.

Southern California's South Coast Air Basin, home to five percent of the U.S. population and over forty percent of the State of California's population is a global gateway for trade. Approximately 40% of all the nation's containerized goods enter through the Ports of Los Angeles and Long Beach then are transported by highways and railways to the rest of the nation. These goods are placed on store shelves nationwide, thus having an economic impact on every U.S. Congressional district. The burden of this national economic benefit, disproportionately impacts the health of Southern California communities along our freight transportation system corridors.

While the freight system is important to the health of Southern California's economy, it takes a significant toll on the health and quality of life of local communities. Increasing volumes of freight movement require simultaneous and continuous improvement in pollution control strategies to reduce health impacts.

Southern California residents who live near transportation corridors and facilities served by ships, trains, and heavy-duty trucks have higher risks of asthma and other health related impacts, and

¹ Schneider, C., L. B. Hill, "Diesel and Health in America: The Lingering Threat." Clean Air Task Force, Feb. 2005, http://catf.us/publications/reports/Diesel_Health_in_America.pdf.

cancer risks are elevated in communities miles from the ports. Diesel emissions from freight activities in the region are also major contributors to regional air pollution that the California Air Resources Board estimates annually cause approximately 5,000 premature deaths, 2,400 hospitalizations, and 980,000 lost work days, and 140,000 cases of asthma and lower respiratory symptoms

Zero and near-zero-emission advanced technologies, along with land use approaches, and policy and regulatory initiatives are important tools for reducing these impacts and improving community health, and will be needed for the region to attain national air quality standards as required by federal law.

MAP-21, the surface transportation authorization law, was enacted in 2012. That law contains several provisions related to freight, but did not establish a funding source for most freight programs. In addition, the Highway Trust Fund (HTF), the major federal funding source for highway and transit projects is nearing insolvency. Funded from federal fuel taxes on gasoline and diesel fuel, the fund is used for highway construction and maintenance, highway safety, and transit projects. Due to the imminent threat of running out of money in August 2014, Congress passed a stopgap plan on July 31, 2014 to prevent a funding lapse. But this stopgap measure does not provide funding beyond May 2015.

There is no clear solution for increasing the funds in the HTF, which have diminished since cars are more fuel efficient (and thus using less gasoline), cars have been driven less during the recent recession, and drivers with alternative-fueled vehicles do not pay into the HTF if their cars do not use gasoline or diesel. Because of the lack of HTF funding, there is little support for expanding the HTF to fund freight projects, particularly those not directly related to highway transportation.

Thus, there has been an effort, strongly supported by Southern California transportation stakeholders, to establish a sustainable, dedicated source of funding for freight projects. This bill would provide a dedicated funding source for freight that is stable and sustainable.

Status:

On March 5, 2015, the bill was introduced and referred to the House Committee on Transportation and Infrastructure and the House Committee on Ways and Means. No hearings are set on this bill.

Specific Provisions:

H.R. 1308, “Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act,” would impose a 1% excise tax upon taxable ground transportation of property (i.e., transportation by freight rail or heavy-duty truck), with the revenues placed into a Freight Trust Fund used to finance two new freight funding programs.

The excise tax would be a national one percent waybill fee on the cost of transporting goods freight programs. In other words, the manufacturers would pay a tax to the rail and trucking companies moving their goods to market. The amount would be one percent of the cost of moving the goods.

The Federal share of the cost of a project assisted with a grant under the program shall be no more than 80 percent of the total project cost.

Up to \$4 billion collected would be allocated through the newly-created Multimodal Freight Funding Formula Program, a program to distribute among the states based solely on the amount of existing freight infrastructure within each state. To be eligible, states must develop comprehensive State Freight Plans. They must also have, or form, state freight advisory committees, as encouraged under MAP-21. California would be eligible as it established the California Freight Advisory Committee (CFAC) and that committee helped develop a state freight plan completed in December 2014.

Eligible uses for these funds would be projects that decrease “greenhouse gas emissions; local air pollution, including ozone and ozone precursors, nitrogen oxides, sulfur dioxide, particulate matter, carbon monoxide, and lead.”

Other monies collected would fund a competitive grant program that would be open to all local, regional, and state governments. Projects would be eligible for a grant if they are a capital investment project for a transportation infrastructure facility significantly used for the movement of freight, they improve the efficiency, reliability and safety of freight transportation, and they reduce the costs of transporting freight, congestion in the freight transportation system, and the reduce the adverse community impacts of freight transportation. Projects must also have non-Federal sources of funding committed and must be included in their state’s freight plan.

Projects selected for grants will be prioritized based on a number of factors including its cost-benefit; its use of innovative technology, strategies, and practices; and the extent to which it will reduce greenhouse gas emissions, criteria pollutants, and water impacts. Grant recipients will be required to collect data and annually report to U.S. DOT and U.S. EPA, the progress made toward greenhouse gas emission reductions and local air pollution reductions in fulfillment of the State freight plan.

The bill also provides that a minimum of five percent of funds awarded under the grant program each year shall be provided for zero-emission freight demonstration projects, as defined by the Secretary of Transportation, in consultation with the Administrator of U.S. EPA.

The bill also adds much more detail to what would be required by U.S. DOT and the states on what they must include in the national freight plan required by MAP-21 and the state freight plans recommended by MAP-21.

H.R. 1308 (2015), “Economy in Motion: The National Multimodal and Sustainable Freight Infrastructure Act,” is a reintroduction of last year’s H.R. 5624 (2014) by the same author. However, there are some differences between the two bills.

- **Adds Clean Construction Equipment Incentive:** Both bills state that the federal match for

projects using the formula funds and the grant funds shall not be greater than 80%. But this bill adds a provision which allows projects to get an additional 5% federal match if that 5% is used to mitigate diesel emissions from construction activities associated with the project. This provision mirrors a SCAQMD proposal submitted in 2011 for the original MAP-21 law, designed to encourage greater use of clean construction equipment for infrastructure projects receiving federal funds.

- **Makes Demonstration Projects Fuel Neutral** - The 2014 bill required a minimum of 5% of funds be used for “freight electrification demonstration projects.” The one amendment requested by the Governing Board in its letter of support for the 2014 bill, was to make this provision fuel neutral. The current bill includes this suggested change and requires a minimum of 5% of funds be used for “zero-emission freight demonstration projects.”
- **Modifies Language on Adverse Impacts:** In the 2014 bill, one of the goals of the competitive grant program was to “prioritize projects that...reduce the adverse environmental and community impacts of freight transportation.” The current bill restates that goal to “prioritize projects that contribute to the environmental goals described in the State freight plan; and reduce the adverse impacts of freight transportation on communities traversed by freight.” While this provision expands the types of adverse impacts addressed (such as traffic congestion), it also benefits states defining environmental goals in their State freight plan.

This should not be problematic for California since the 2014 California Freight Mobility Plan includes two significant environmental goals: “Environmental Stewardship - Avoid and reduce adverse environmental and community impacts of the freight transportation system,” and “Innovative Technology & Practices - Use innovative technology and practices to operate, maintain, and optimize the efficiency of the freight transportation system while reducing its environmental and community impacts.” And both of these goals include very specific objectives and strategies, many of which mirror or complement SCAQMD efforts, such as promoting the use of zero- and near-zero-emission technologies in the freight sector, and reducing air pollution, greenhouse gas (GHG) emissions, and other negative impacts associated with freight transportation.

- **Environmental Requirement for National Freight Plan** – The MAP-21 law requires U.S. DOT to create a national freight plan that addresses several requirements. In addition to what is in current law, the current bill adds a new requirement which states that the national plan must include “best practices to reduce greenhouse gas emissions, local air pollution, water runoff, and wildlife habitat loss.”
- **Impacts of Freight Railroads** - The 2014 bill included a provision that allowed these funds to be used for projects that “mitigate the adverse impact of freight movement on communities traversed by freight railroads, such as through grade separations.” This bill

however, moves this language to the section regarding state freight plans. So now, states, when preparing their freight plans, must include “strategies and goals to decrease the adverse impact of freight transportation on communities traversed by freight railroads.”

- **Redistribution of Unspent Funds** – This bill now allows funds that were not obligated by the grant recipients within three fiscal years to be redistributed for new grants.
- **Measuring GHG and Local Air Pollution Reductions** – This bill adds a new provision to require data collection to measure progress on the formula funding allocations toward GHG and local air pollution reductions in accordance with the state freight plan. This mirrors a provision that was included in the 2014 bill regarding the competitive grants which is also included in this bill.

Impacts on SCAQMD’s Mission, Operations or Initiatives:

At its May 2014 meeting, the SCAQMD Governing Board approved a set of eight federal legislative proposals related to the federal transportation law and the upcoming reauthorization of the MAP-21 law and the federal passenger rail law. The set contains five proposals that seek to create a more sustainable goods movement supply chain and the infrastructure that supports it, namely infrastructure improvement projects to complement local, state and private investment for ports, key freight corridors and assets, as well as efforts to reduce environmental impacts imposed upon local communities. Two other proposals relate to providing funding to replace existing commuter rail with the cleanest (Tier 4) locomotives. The last proposals would amend the Clean Air Act by requiring U.S. EPA to address emissions from federal sources that could not be addressed by the SIP.

SCAQMD’s proposals use incentives and grant programs to increase the number of zero- and near-zero emission trucks, freight locomotives and cargo handling equipment, seek to expand the number of refueling and recharging facilities for those vehicles, and promote highway infrastructure that promotes the use of cleaner freight vehicles (such as dedicated zero-emission truck lanes).

The commitment made to the region’s transportation agencies is that SCAQMD would not support using existing HTF funds for these proposals, but would look for other sustainable funding sources, and would try to identify funding from other sources. H.R. 1308 would establish such a sustainable funding source for freight programs, and promotes clean freight in the process. It does this by prioritizing grants based on several factors including the extent to which a project will reduce greenhouse gas emissions, criteria pollutants, and water impacts.

This bill is very similar to the previous version introduced by Mr. Lowenthal last year, and while it makes several changes, most are complementary to SCAQMD’s goals of reducing the adverse impacts of freight and promoting advanced technologies.

In addition, since funding recipients will be required to collect data and annually report the progress made toward greenhouse gas emission reductions and local air pollution reductions, this will help

the region achieve greater emission reductions, provide data useful to evaluating projects, and increase the ability of similar future projects to replicate or improve on those emission reductions.

The five percent set-aside awarded as grants each year for zero-emission freight demonstration projects will also help establish federal support for a market for clean freight vehicles, and help to move the technology forward.

Recommended Position: SUPPORT

ATTACHMENT 2B

I

114TH CONGRESS
1ST SESSION

H. R. 1308

To amend title 49, United States Code, to establish a Multimodal Freight Funding Formula Program and a National Freight Infrastructure Competitive Grant Program to improve the efficiency and reliability of freight movement in the United States, and for other purposes.

IN THE HOUSE OF REPRESENTATIVES

MARCH 4, 2015

Mr. LOWENTHAL (for himself, Mr. ROHRABACHER, Mrs. KIRKPATRICK, and Mrs. LAWRENCE) introduced the following bill; which was referred to the Committee on Transportation and Infrastructure, and in addition to the Committee on Ways and Means, for a period to be subsequently determined by the Speaker, in each case for consideration of such provisions as fall within the jurisdiction of the committee concerned

A BILL

To amend title 49, United States Code, to establish a Multimodal Freight Funding Formula Program and a National Freight Infrastructure Competitive Grant Program to improve the efficiency and reliability of freight movement in the United States, and for other purposes.

1 *Be it enacted by the Senate and House of Representa-*
2 *tives of the United States of America in Congress assembled,*

1 **SECTION 1. SHORT TITLE.**

2 This Act may be cited as the “Economy in Motion:
3 The National Multimodal and Sustainable Freight Infra-
4 structure Act”.

5 **SEC. 2. FREIGHT FUNDING PROGRAMS.**

6 (a) IN GENERAL.—Subchapter I of chapter 55 of title
7 49, United States Code, is amended by adding at the end
8 the following:

9 **“§ 5506. Multimodal Freight Funding Formula Pro-**
10 **gram**

11 “(a) IN GENERAL.—The Secretary of Transportation
12 shall establish a Multimodal Freight Funding Formula
13 Program under which the Secretary shall distribute funds
14 to States to improve the efficiency and reliability of freight
15 movement in the United States.

16 “(b) FORMULA APPORTIONMENT.—Of funds made
17 available to the Secretary for a fiscal year to carry out
18 the Multimodal Freight Funding Formula Program under
19 this section, the Secretary shall calculate the amount
20 available to be apportioned to a State based on the fol-
21 lowing:

22 “(1) 6.25 percent in the ratio that—

23 “(A) the number of ports in each State;
24 bears to

25 “(B) the number of ports in all States.

26 “(2) 6.25 percent in the ratio that—

1 “(A) the number of rail track-miles used
2 for the movement of freight in each State; bears
3 to

4 “(B) the number of such rail track-miles in
5 all States.

6 “(3) 6.25 percent in the ratio that—

7 “(A) the number of cargo-handling air-
8 ports in each State; bears to

9 “(B) the number of such airports in all
10 States.

11 “(4) 6.25 percent in the ratio that—

12 “(A) the number of Interstate system
13 miles in each State; bears to

14 “(B) the number of Interstate system
15 miles in all States.

16 “(5) 37.5 percent in the ratio that—

17 “(A) the tonnage of rail, waterborne, high-
18 way, and airport freight moved in each State;
19 bears to

20 “(B) the tonnage of such freight moved in
21 all States.

22 “(6) 37.5 percent in the ratio that—

23 “(A) the value of rail, waterborne, highway
24 and airport freight moved in each State; bears
25 to

1 “(B) the value of such freight moved in all
2 States.

3 “(c) TIER I ELIGIBILITY.—The Secretary shall pro-
4 vide to a State in a fiscal year 40 percent of the amount
5 of the funds available to the State under subsection (b)
6 for that fiscal year if the State—

7 “(1) has an established freight advisory com-
8 mittee in accordance with section 1117 of MAP–21
9 (Public Law 112–141);

10 “(2) developed any analyses or plans required
11 for the completion of a State freight plan in accord-
12 ance with section 1118 of MAP–21 (Public Law
13 112–141);

14 “(3) has an approved State freight plan;

15 “(4) has conducted a statewide analysis of
16 freight needs and bottlenecks on all modes of trans-
17 portation, including intermodal and last mile needs;

18 “(5) demonstrates use of the statewide analysis
19 of freight needs in prioritizing projects in the State
20 freight plan;

21 “(6) demonstrates that the State will use the
22 funding that it is provided under this paragraph for
23 the highest priority projects identified in the freight
24 investment plan described under section 1118 of
25 MAP–21 (Public Law 112–141); and

1 “(7) demonstrates that the program of projects
2 will use the strategies and contribute to the goals
3 described in the State freight plan to decrease—

4 “(A) greenhouse gas emissions;

5 “(B) local air pollution, including ozone
6 and ozone precursors, nitrogen oxides, sulfur di-
7 oxide, particulate matter, carbon monoxide, and
8 lead;

9 “(C) water runoff and other adverse water
10 impacts; and

11 “(D) wildlife habitat loss.

12 “(d) TIER II ELIGIBILITY.—The Secretary shall pro-
13 vide to a State in a fiscal year 60 percent of the amount
14 of the funds available to the State under subsection (b)
15 for that fiscal year if the State—

16 “(1) has met the eligibility criteria of subsection
17 (c);

18 “(2) has conducted, in cooperation with at least
19 1 other State, a multistate analysis of freight needs
20 and bottlenecks on all modes of transportation, in-
21 cluding intermodal and last mile needs along a
22 multistate freight corridor; and

23 “(3) has developed, in cooperation with at least
24 one other State or a relevant entity in Canada or
25 Mexico, a regional freight investment plan that fo-

1 cuses on the end-to-end investment needs of critical
2 multistate freight corridors based on the multistate
3 analysis of freight needs and bottlenecks on all
4 modes of transportation, including intermodal and
5 last mile needs.

6 “(e) REDISTRIBUTION OF FUNDS.—The Secretary
7 shall make available under the National Freight Infra-
8 structure Competitive Grant Program under section 5507
9 any funds that—

10 “(1) the Secretary calculated under subsection
11 (b) as available to a State for a fiscal year but did
12 not provide to that State for that fiscal year under
13 subsection (c) or subsection (d); or

14 “(2) the Secretary provided to a State under
15 subsection (c) or subsection (d) but remain unobli-
16 gated in that State at the end of the third fiscal
17 year following the fiscal year in which they were pro-
18 vided to the State.

19 “(f) ELIGIBLE USES.—A State may use funds pro-
20 vided under this section only for—

21 “(1) the development of corridor freight plans
22 or regional freight plans; or

23 “(2) one or more phases of capital projects,
24 equipment, or operational improvements on roads,
25 rails, landside infrastructure on ports and airports,

1 and intermodal connectors included in a State
2 freight plan for projects that—

3 “(A) maintain or improve the efficiency
4 and reliability of freight supply chains;

5 “(B) demonstrate public freight benefits;

6 “(C) improve modal components of a
7 multimodal corridor that is critical to a State or
8 region;

9 “(D) address freight needs to facilitate a
10 regionally or nationally significant economic de-
11 velopment issue;

12 “(E) in accordance with the State freight
13 plan, decrease—

14 “(i) greenhouse gas emissions;

15 “(ii) local air pollution, including
16 ozone and ozone precursors, nitrogen ox-
17 ides, sulfur dioxide, particulate matter,
18 carbon monoxide, and lead;

19 “(iii) water runoff and other adverse
20 water impacts; and

21 “(iv) wildlife habitat loss;

22 “(F) are multimodal, multi-jurisdictional,
23 or corridor-based and address freight needs;

24 “(G) relieve freight or non-freight access,
25 congestion, or safety issues; or

1 “(H) address first and last mile connec-
2 tors.

3 “(g) EPA REPORT.—A State that receives funds
4 under this section shall collect data and, beginning 1 year
5 from the date of the completion of each project or project
6 phase that receives such funds, and annually thereafter
7 for 15 years, report to the Secretary and the Adminis-
8 trator of Environmental Protection Agency on progress
9 made toward greenhouse gas emission reductions and local
10 air pollution reductions in accordance with the State
11 freight plan. All relevant data and reporting shall be col-
12 lected and reported in accordance with guidance developed
13 by the Administrator in consultation with the Secretary.

14 “(h) FEDERAL SHARE.—

15 “(1) IN GENERAL.—The Federal share of the
16 cost of a project carried out by a State using funds
17 provided under this section may not be more than
18 80 percent.

19 “(2) ADDITIONAL FEDERAL SHARE.—The Fed-
20 eral share of the cost of a project carried out by a
21 State using funds provided under this section may
22 be increased by 5 percent if the such 5 percent is
23 used for the mitigation of diesel emissions from con-
24 struction activities associated with the project. The
25 Administrator of Environmental Protection Agency,

1 in consultation with the Secretary, shall develop
2 guidance for eligible equipment and activities con-
3 sistent with existing State, local, and nonprofit clean
4 construction guidelines.

5 “(i) RESERVATION OF FUNDS FOR TERRITORIES.—
6 Before making a calculation under subsection (b), the Sec-
7 retary shall withhold funds for distribution to each terri-
8 tory in an amount based on the freight infrastructure need
9 of the territories, as determined by the Secretary. Such
10 funds shall not otherwise be made available for distribu-
11 tion under this section.

12 “(j) AUTHORIZATION OF APPROPRIATIONS.—There
13 is authorized to be appropriated from the Freight Trust
14 Fund to carry out this section an amount equal to 50 per-
15 cent of the receipts of the Freight Trust Fund for each
16 fiscal year beginning in fiscal year 2016.

17 “(k) ADMINISTRATION AND OVERSIGHT COSTS.—
18 The Secretary may retain up to one-half of 1 percent of
19 the amounts available to carry out this section for each
20 fiscal year for the cost of administration and oversight of
21 projects funded under this section.

22 “(l) AVAILABILITY OF FUNDS.—Amounts authorized
23 under subsection (j) shall be—

24 “(1) available for obligation on October 1 of the
25 fiscal year for which they are authorized; and

1 “(2) available until expended.

2 “(m) APPLICATION OF RATE REQUIREMENTS.—The
3 Secretary shall take such action as may be necessary to
4 apply the requirements described under section 113 of title
5 23, as applicable, to any project receiving funds under this
6 section.

7 “(n) DEFINITIONS.—In this section:

8 “(1) STATE.—The term ‘State’ means each of
9 the 50 States, the District of Columbia, and Puerto
10 Rico.

11 “(2) STATE FREIGHT PLAN.—The term ‘State
12 freight plan’ means the State freight plan described
13 under section 1118 of MAP–21 (Public Law 112–
14 141).

15 “(3) TERRITORY.—The term ‘territory’ has the
16 meaning given such term in section 165(c)(1) of title
17 23.

18 **“§ 5507. National Freight Infrastructure Competitive**
19 **Grant Program**

20 “(a) ESTABLISHMENT.—The Secretary of Transpor-
21 tation shall establish a National Freight Infrastructure
22 Competitive Grant Program under which the Secretary
23 shall make grants, on a competitive basis, to designated
24 entities for eligible projects to improve the efficiency and
25 reliability of freight movement in the United States.

1 “(b) PROJECT GOALS.—In carrying out the Program,
2 the Secretary shall prioritize projects that—

3 “(1) improve the efficiency and reliability of
4 freight transportation;

5 “(2) reduce the cost of freight transportation;

6 “(3) improve the safety of freight transpor-
7 tation;

8 “(4) relieve bottlenecks in the freight transpor-
9 tation system;

10 “(5) improve the state of good repair of the
11 freight transportation system;

12 “(6) contribute to the environmental goals de-
13 scribed in the State freight plan; and

14 “(7) reduce the adverse impacts of freight
15 transportation on communities traversed by freight.

16 “(c) GRANT APPLICATIONS.—To be eligible to receive
17 a grant under the Program a designated entity shall sub-
18 mit to the Secretary an application at such time, in such
19 form, and containing such information as the Secretary
20 may require.

21 “(d) ELIGIBLE PROJECT.—A project is eligible for a
22 grant under the Program only if the Secretary determines
23 that the project—

24 “(1) that is—

1 “(A) a capital investment project for a
2 transportation infrastructure facility signifi-
3 cantly used for the movement of freight; or

4 “(B) infrastructure necessary to mitigate
5 the adverse impact of freight transportation on
6 communities traversed by freight, including—

7 “(i) a road, rail, or landside air or
8 water facility;

9 “(ii) an intermodal facility such as a
10 seaport or port on the inland waterway
11 system, an airport, or a highway and rail
12 intermodal facility;

13 “(iii) a facility related to an inter-
14 national border crossing;

15 “(iv) is for an operational improve-
16 ment or equipment of a facility described
17 in this paragraph; or

18 “(v) railway-roadway grade separa-
19 tions and related improvements;

20 “(2) will help to achieve the goals set out in
21 subsection (b);

22 “(3) has non-Federal source or sources of com-
23 mitted financing, along with any Federal funds, suf-
24 ficient to complete the project;

25 “(4) has independent utility;

1 “(5) is included in the State freight plan; and

2 “(6) includes the development of project plans
3 and analysis.

4 “(e) GRANT CRITERIA.—The Secretary shall select
5 eligible projects for funding based on the following cri-
6 teria:

7 “(1) The extent to which the project is likely to
8 advance the goals described in subsection (b).

9 “(2) The likely benefits of the project relative
10 to its costs.

11 “(3) The extent to which the project dem-
12 onstrates the use of innovative technology, strate-
13 gies, and practices.

14 “(4) The extent to which the project uses
15 onroad construction vehicles and nonroad construc-
16 tion equipment that meet the emission standards of
17 the Environmental Protection Agency.

18 “(5) The extent to which the project dem-
19 onstrates effective reductions (in accordance with
20 the State freight plan) in—

21 “(A) greenhouse gas emissions;

22 “(B) local air pollution, including ozone
23 and ozone precursors, nitrogen oxides, sulfur di-
24 oxide, particulate matter, carbon monoxide, and
25 lead;

1 “(C) water runoff and other adverse water
2 impacts; and

3 “(D) wildlife habitat loss.

4 “(6) The likely effect of the project on increas-
5 ing United States exports.

6 “(7) The consistency of the project with the na-
7 tional freight strategic plan described under section
8 5508.

9 “(8) The extent to which the project leverages
10 Federal funds by matching State, territorial, local,
11 tribal, or private funds to the Federal funding re-
12 quested under the Program.

13 “(9) The extent to which funds for the project
14 are not available from other Federal sources.

15 “(f) SPECIAL RULE.—A minimum of 5 percent of
16 funds made available under the Program for a fiscal year
17 shall be provided to zero-emission freight demonstration
18 projects, as defined by the Secretary of Transportation,
19 in consultation with the Administrator of the Environ-
20 mental Protection Agency.

21 “(g) RETROSPECTIVE ANALYSIS.—A grant agree-
22 ment made under the Program shall require that the re-
23 cipient collect data and report to the Secretary, at an ap-
24 propriate time as determined by the Secretary, on—

25 “(1) the actual cost of constructing the project;

1 “(2) the time required to complete the project
2 and put it into service;

3 “(3) the level of usage of the facility built or
4 improved by the project;

5 “(4) the benefits of the project, measured in a
6 way that is consistent with the benefits that were es-
7 timated in the application for funding that was sub-
8 mitted to the Secretary; and

9 “(5) any costs resulting from the project in ad-
10 dition to the costs of constructing the project.

11 “(h) EPA REPORT.—A grant agreement made under
12 the Program shall require that the recipient collect data
13 and, beginning 1 year from the date of the completion of
14 the project and annually thereafter for 15 years, report
15 to the Secretary and the Administrator of Environmental
16 Protection Agency on progress made toward greenhouse
17 gas emission reductions and local air pollution reductions
18 in accordance with the State freight plan. All relevant data
19 and reporting shall be collected and reported in accordance
20 with guidance developed by the Administrator in consulta-
21 tion with the Secretary.

22 “(i) PERIOD OF AVAILABILITY.—In entering into
23 agreements under this section, the Secretary shall ensure
24 that any funds made available for a project that are not
25 obligated or expended before the last day of the third fiscal

1 year following the fiscal year in which the funds are made
2 available are transferred back to the Secretary for making
3 grants under the Program.

4 “(j) REDISTRIBUTION OF FUNDS.—If a designated
5 entity that received a grant under this section has made
6 no obligation of funding with respect to such grant by the
7 end of the third fiscal year following the fiscal year in
8 which the Secretary awarded the grant, the Secretary
9 shall—

10 “(1) withdraw the grant from the designated
11 entity; and

12 “(2) apply the funding to another grant under
13 this section.

14 “(k) FEDERAL SHARE.—

15 “(1) IN GENERAL.—The Federal share of the
16 cost of a project for which a grant is made under
17 the Program, as estimated by the Secretary, shall be
18 not more than 80 percent.

19 “(2) ADDITIONAL FEDERAL SHARE.—The Fed-
20 eral share of the cost of a project carried out by a
21 State using funds provided under this section may
22 be increased by 5 percent if the such 5 percent is
23 used for the mitigation of diesel emissions from con-
24 struction activities associated with the project. The
25 Administrator of Environmental Protection Agency,

1 in consultation with the Secretary, shall develop
2 guidance for eligible equipment and activities con-
3 sistent with existing State, local, and nonprofit clean
4 construction guidelines.

5 “(l) ADMINISTRATION AND OVERSIGHT COSTS.—The
6 Secretary may retain up to one-half of 1 percent of the
7 amounts made available to carry out this section for each
8 fiscal year for the cost of administration and oversight of
9 projects funded under the Program.

10 “(m) AUTHORIZATION AND AVAILABILITY OF
11 FUNDS.—

12 “(1) AUTHORIZATION.—There is authorized to
13 be appropriated from the Freight Trust Fund to
14 carry out this section an amount equal to 50 percent
15 of the receipts of the Freight Trust Fund for each
16 fiscal year beginning in fiscal year 2016.

17 “(2) AVAILABILITY.—Amounts authorized
18 under paragraph (1) shall be—

19 “(A) available for obligation on October 1
20 of the fiscal year for which they are authorized;
21 and

22 “(B) available for obligation until ex-
23 pended.

24 “(n) APPLICATION OF RATE REQUIREMENTS.—The
25 Secretary shall take such action as may be necessary to

1 apply the requirements described under section 113 of title
2 23, as applicable, to any project receiving funds under this
3 section.

4 “(o) DEFINITIONS.—In this section:

5 “(1) DESIGNATED ENTITY.—The term ‘des-
6 ignated entity’ means—

7 “(A) a State;

8 “(B) a unit of local government;

9 “(C) a metropolitan planning organization;

10 “(D) a public transportation authority (in-
11 cluding a port authority);

12 “(E) a tribal government; or

13 “(F) or a consortium of the entities de-
14 scribed in this paragraph.

15 “(2) STATE.—The term ‘State’ means any of
16 the 50 States, the District of Columbia, Puerto Rico,
17 American Samoa, the Commonwealth of the North-
18 ern Mariana Islands, Guam, and the United States
19 Virgin Islands.

20 “(3) STATE FREIGHT PLAN.—The term ‘State
21 freight plan’ means the State freight plan described
22 under section 1118 of MAP–21 (Public Law 112–
23 141).

1 **“§ 5508. National freight policy, network, plan, and**
2 **data**

3 “(a) IN GENERAL.—It is the policy of the United
4 States to improve the condition and performance of the
5 national freight system to ensure that the national freight
6 system provides the foundation for the United States to
7 compete in the global economy and achieve each goal de-
8 scribed in subsection (b).

9 “(b) GOALS.—The goals of the national freight policy
10 are—

11 “(1) to increase the productivity and efficiency
12 of the national freight system so as to enhance the
13 economic competitiveness of the United States;

14 “(2) to improve the safety, security, and resil-
15 ience of freight transportation; and

16 “(3) to improve quality of life by reducing,
17 eliminating or reversing adverse environmental and
18 community impacts of freight projects and goods
19 movement in the United States.

20 “(c) NATIONAL FREIGHT SYSTEM DEFINED.—In
21 this section, the term ‘national freight system’ means the
22 publicly and privately-owned transportation facilities that
23 are used in transporting freight within the United States,
24 including roads, railroads, ports, waterways, locks and
25 dams, airports, airways, warehouses, distribution centers,
26 and intermodal facilities.

1 “(d) MULTIMODAL NATIONAL FREIGHT NET-
2 WORK.—

3 “(1) ESTABLISHMENT.—The Secretary shall es-
4 tablish a multimodal national freight network in ac-
5 cordance with this section to inform public and pri-
6 vate planning, to prioritize for Federal investment,
7 to aid the public and private sector in strategically
8 directing resources, and to support Federal decision
9 making to achieve the national freight policy goals
10 set forth in subsection (b).

11 “(2) NETWORK COMPONENTS.—The national
12 freight network shall consist of such connectors, cor-
13 ridors, and facilities in all freight transportation
14 modes as most critical to the current and future
15 movement of freight within the national freight sys-
16 tem.

17 “(3) INITIAL DESIGNATION OF THE NATIONAL
18 FREIGHT NETWORK.—

19 “(A) DESIGNATION.—The Secretary shall
20 designate a national freight network—

21 “(i) using measurable data to assess
22 the significance of goods movement, includ-
23 ing consideration of points of origin, des-
24 tination, and linking components of the

1 United States global and domestic supply
2 chains;

3 “(ii) fostering network connectivity;
4 and

5 “(iii) reflecting input collected from
6 stakeholders through a public process, in-
7 cluding input from metropolitan planning
8 organizations, and States to identify crit-
9 ical freight facilities that are vital links in
10 national or regionally significant goods
11 movement and supply chains.

12 “(B) FACTORS FOR DESIGNATION.—In
13 designating the national freight network, the
14 Secretary may consider—

15 “(i) volume, tonnage, and value of
16 freight;

17 “(ii) origins and destinations of
18 freight movement in, to, and from the
19 United States;

20 “(iii) land and maritime ports of
21 entry;

22 “(iv) population centers;

23 “(v) economic factors or other inputs
24 determined to be relevant by the Secretary;

1 “(vi) bottlenecks and other impedi-
2 ments contributing to significant measur-
3 able congestion and delay in freight move-
4 ment;

5 “(vii) facilities of future freight im-
6 portance based on input from stakeholders
7 and analysis of projections for future
8 growth and changes to the freight system;
9 and

10 “(viii) elements of the freight system
11 identified and documented by a metropoli-
12 tan planning organization or State using
13 national or local data as having critical
14 freight importance to the region.

15 “(4) REDESIGNATION OF THE NATIONAL
16 FREIGHT NETWORK.—Not later than 5 years after
17 the designation of the national freight network
18 under paragraph (2) and every 5 years thereafter,
19 using the designation factors described in paragraph
20 (1), the Secretary shall redesignate the national
21 freight network.

22 “(e) NATIONAL FREIGHT STRATEGIC PLAN.—

23 “(1) ESTABLISHMENT OF PLAN.—Not later
24 than October 1, 2015, the Secretary shall, in con-
25 sultation with the Secretary of Homeland Security,

1 Secretary of Commerce, Assistant Secretary of the
2 Army for Civil Works, the Administrator of the En-
3 vironmental Protection Agency, State departments
4 of transportation, and other appropriate public and
5 private transportation stakeholders, develop, main-
6 tain, and post on the Department of Transportation
7 public website a national freight strategic plan that
8 includes—

9 “(A) an assessment of the condition and
10 performance of the national freight system;

11 “(B) an identification of bottlenecks on the
12 national freight system that create significant
13 freight congestion problems, based on a quan-
14 titative methodology developed by the Secretary,
15 which shall, at a minimum, include—

16 “(i) information from the Freight
17 Analysis Framework of the Federal High-
18 way Administration; and

19 “(ii) to the maximum extent prac-
20 ticable, an estimate of the cost of address-
21 ing each bottleneck and any operational
22 improvements that could be implemented;

23 “(C) forecasts of freight volumes for 10-
24 year and 20-year periods beginning in the year
25 during which the plan is issued;

1 “(D) an identification of major trade gate-
2 ways and national freight corridors that connect
3 major population centers, trade gateways, and
4 other major freight generators for current and
5 forecasted traffic and freight volumes, the iden-
6 tification of which shall be revised, as appro-
7 priate, in subsequent plans;

8 “(E) an assessment of statutory, regu-
9 latory, technological, institutional, financial,
10 and other barriers to improved freight transpor-
11 tation performance (including opportunities for
12 overcoming the barriers);

13 “(F) an identification of routes providing
14 access to energy exploration, development, in-
15 stallation, or production areas;

16 “(G) best practices for improving the per-
17 formance of the national freight system;

18 “(H) best practices for addressing the im-
19 pacts of freight movement on communities;

20 “(I) a process for addressing multistate
21 projects and encouraging jurisdictions to col-
22 laborate;

23 “(J) strategies to improve freight
24 connectivity between modes of transportation;
25 and

1 “(K) best practices to reduce greenhouse
2 gas emissions, local air pollution, water runoff,
3 and wildlife habitat loss.

4 “(2) UPDATES TO NATIONAL FREIGHT STRA-
5 TEGIC PLAN.—Not later than 5 years after the date
6 of completion of the first national freight strategic
7 plan under paragraph (1), and every 5 years there-
8 after, the Secretary shall update and repost on the
9 Department of Transportation public website a re-
10 vised national freight strategic plan.

11 “(f) FREIGHT TRANSPORTATION CONDITIONS AND
12 PERFORMANCE REPORTS.—Not later than October 1,
13 2015, and biennially thereafter, the Secretary shall pre-
14 pare a report that contains a description of the conditions
15 and performance of the national freight system in the
16 United States.

17 “(g) TRANSPORTATION INVESTMENT DATA AND
18 PLANNING TOOLS.—

19 “(1) IN GENERAL.—The Secretary shall develop
20 new tools and improve existing tools to support an
21 outcome-oriented, performance-based approach to
22 evaluate proposed freight-related and other transpor-
23 tation projects, including—

24 “(A) methodologies for systematic analysis
25 of benefits and costs;

1 “(B) freight forecasting models;

2 “(C) tools for ensuring that the evaluation
3 of freight-related and other transportation
4 projects can consider safety, economic competi-
5 tiveness, environmental sustainability, and sys-
6 tem condition in the project selection process;
7 and

8 “(D) other elements to assist in effective
9 transportation planning.

10 “(2) FREIGHT DATA.—In support of these
11 tools, and to support a broad range of evaluation
12 methods and techniques to assist in making trans-
13 portation investment decisions, the Secretary shall—

14 “(A) direct the collection of appropriate
15 transportation-related data, including data to
16 measure the condition and performance of the
17 national freight system; and

18 “(B) consider any improvements to exist-
19 ing freight data collection efforts that could re-
20 duce identified freight data gaps and defi-
21 ciencies and help improve forecasts of freight
22 transportation demand.

23 “(3) CONSULTATION.—The Secretary shall con-
24 sult with Federal, State, and other stakeholders to

1 develop, improve, and implement the tools and col-
2 lect the data identified pursuant to this subsection.

3 “(4) MULTIMODAL FREIGHT MEASURE.—The
4 Secretary shall evaluate the analyses and plans re-
5 quired under section 5506(c)(2) and consider devel-
6 opment of a national performance measure to assess
7 the efficiency of the multimodal freight network in
8 accordance with the national freight strategic plan.

9 “(h) STATE DEFINED.—In this section, the term
10 ‘State’ means any of the 50 States, the District of Colum-
11 bia, Puerto Rico, American Samoa, the Commonwealth of
12 the Northern Mariana Islands, Guam, and the United
13 States Virgin Islands.”.

14 (b) CONFORMING AMENDMENTS.—

15 (1) TABLE OF SECTIONS.—The table of sections
16 for chapter 55 of title 49, United States Code, is
17 amended by adding after the item related to section
18 5505 the following:

“5506. Multimodal Freight Funding Formula Program.

“5507. National Freight Infrastructure Competitive Grant Program.

“5508. National freight policy, network, plan, and data.”.

19 (2) REPEAL.—Section 167 of title 23, United
20 States Code, is repealed.

21 (3) CROSS-REFERENCE.—Section 505(a)(3) of
22 title 23, United States Code, is amended by striking
23 “149, and 167” and inserting “and 149, and section
24 5405 of title 49”.

1 **SEC. 3. STATE FREIGHT ADVISORY COMMITTEE.**

2 Section 1117 of MAP-21 (Public Law 112-141) is
3 amended to read as follows:

4 **“SEC. 1117. STATE FREIGHT ADVISORY COMMITTEES.**

5 “(a) IN GENERAL.—The Secretary shall encourage
6 each State to establish and maintain a freight advisory
7 committee consisting of a representative cross-section of
8 public and private sector freight entities, including—

9 “(1) any modes of freight transportation active
10 in the State, including airports, highways, ports, and
11 rail;

12 “(2) shippers;

13 “(3) carriers;

14 “(4) freight-related associations;

15 “(5) the freight industry workforce;

16 “(6) the transportation department of the
17 State;

18 “(7) metropolitan planning organizations;

19 “(8) local governments;

20 “(9) the environmental protection department
21 of the State, if applicable; and

22 “(10) the air resources board of the State, if
23 applicable.

24 “(b) QUALIFICATIONS.—Members of a committee es-
25 tablished under subsection (a) shall be widely recognized

1 to have qualifications sufficient to represent the interests
2 of their specific stakeholder group, including—

3 “(1) a general business and financial experi-
4 ence;

5 “(2) experience or qualifications in the areas of
6 freight transportation and logistics;

7 “(3) experience in transportation planning;

8 “(4) experience representing employees of the
9 freight industry; or

10 “(5) experience representing a State, local gov-
11 ernment, or metropolitan planning organization.

12 “(c) ROLES OF COMMITTEE.—The freight advisory
13 committee shall—

14 “(1) advise the State on freight-related prior-
15 ities, issues, projects, and funding needs;

16 “(2) serve as a forum for discussion for State
17 transportation decisions affecting freight mobility;

18 “(3) communicate and coordinate regional pri-
19 orities with other organizations;

20 “(4) promote the sharing of information be-
21 tween the private and public sectors on freight
22 issues;

23 “(5) participate in the development of the State
24 freight plan under section 1118, including advising

1 on the development of the freight investment plan;
2 and

3 “(6) approve the State freight plan under sec-
4 tion 1118, including the freight investment plan.

5 “(d) STATE DEFINED.—In this section, the term
6 ‘State’ means any of the 50 States, the District of Colum-
7 bia, Puerto Rico, American Samoa, the Commonwealth of
8 the Northern Mariana Islands, Guam, and the United
9 States Virgin Islands.”.

10 **SEC. 4. STATE FREIGHT PLANS.**

11 Section 1118 of MAP–21 (Public Law 112–141) is
12 amended to read as follows:

13 **“SEC. 1118. STATE FREIGHT PLANS.**

14 “(a) IN GENERAL.—The Secretary shall encourage
15 each State to develop a freight plan that provides a
16 multimodal, comprehensive plan for the immediate and
17 long-range planning activities and investments of the
18 State with respect to freight. The freight plan shall include
19 a strategic, long-term component and a tactical, short-
20 term component.

21 “(b) PLAN CONTENTS.—The freight plan described
22 in subsection (a) shall consider all modes of freight trans-
23 portation in the State and include, at a minimum—

1 “(1) an identification of significant freight sys-
2 tem trends, needs, and issues with respect to a
3 State;

4 “(2) a description of the freight policies, strate-
5 gies, and performance measures that will guide the
6 freight-related transportation investment decisions of
7 the State;

8 “(3) a description of how the plan will improve
9 the ability of the State to meet the national freight
10 goals established under section 5508 of title 49,
11 United States Code;

12 “(4) evidence of consideration of innovative
13 technologies and operational strategies, including in-
14 telligent transportation systems, that improve the
15 safety and efficiency of freight movement;

16 “(5) in the case of routes on which travel of
17 heavy vehicles (including mining, agricultural, en-
18 ergy cargo or equipment, and timber vehicles) is pro-
19 jected to substantially deteriorate the condition of
20 the roadways, a description of improvements that
21 may be required to reduce or impede the deteriora-
22 tion;

23 “(6) an inventory of facilities with freight mo-
24 bility issues, such as truck bottlenecks, within the

1 State, and a description of the strategies the State
2 is employing to address those freight mobility issues;

3 “(7) strategies and goals to decrease—

4 “(A) greenhouse gas emissions;

5 “(B) local air pollution, including ozone
6 and ozone precursors, nitrogen oxides, sulfur di-
7 oxide, particulate matter, carbon monoxide, and
8 lead;

9 “(C) water runoff and other adverse water
10 impacts; and

11 “(D) wildlife habitat loss;

12 “(8) strategies and goals to decrease the ad-
13 verse impact of freight transportation on commu-
14 nities traversed by freight railroads; and

15 “(9) a freight investment plan that includes a
16 list of projects in order of priority and describes how
17 multimodal freight investment funds under the
18 Economy in Motion: The National Multimodal and
19 Sustainable Freight Infrastructure Act would be in-
20 vested and matched.

21 “(c) REQUIREMENT OF ANTICIPATED FULL FUND-
22 ING.—The freight investment plan required under sub-
23 section (b)(8) may only include a project, or an identified
24 phase of a project, if funding for completion of the project
25 can reasonably be anticipated to be available for the

1 project within the time period identified in the freight in-
2 vestment plan.

3 “(d) RELATIONSHIP TO LONG-RANGE PLAN.—The
4 freight plan described in subsection (a) may be developed
5 separate from, or incorporated into, the long-range state-
6 wide transportation plan required under section 135(f) of
7 title 23, United States Code.

8 “(e) CERTIFICATION.—The Secretary shall approve a
9 freight plan if such plan meets the requirements of this
10 section and is consistent with the National freight stra-
11 tegic plan described in section 5508 of title 49, United
12 States Code. The Secretary, in consultation with the Ad-
13 ministrator of the Environmental Protection Agency shall
14 certify any environmental goal or strategy provisions of
15 the plan.

16 “(f) FORECAST PERIOD.—The freight plan described
17 in subsection (a) shall address a 10-year and 20-year fore-
18 cast period.

19 “(g) UPDATES.—A State shall update the freight
20 plan at least every 5 years.

21 “(h) STATE DEFINED.—In this section, the term
22 ‘State’ means any of the 50 States, the District of Colum-
23 bia, Puerto Rico, American Samoa, the Commonwealth of
24 the Northern Mariana Islands, Guam, and the United
25 States Virgin Islands.”.

1 **SEC. 5. FREIGHT TRUST FUND.**

2 (a) IN GENERAL.—Subchapter A of chapter 98 of the
3 Internal Revenue Code of 1986 is amended by adding at
4 the end the following new section:

5 **“SEC. 9512. FREIGHT TRUST FUND.**

6 “(a) CREATION OF TRUST FUND.—There is estab-
7 lished in the Treasury of the United States a trust fund
8 to be known as the ‘Freight Trust Fund’ (hereinafter in
9 this section referred to as the ‘Fund’) consisting of such
10 amounts as may be appropriated or credited to such Fund
11 as provided in this section or section 9602(b).

12 “(b) TRANSFERS TO THE FUND.—There are hereby
13 appropriated to the Fund amounts equivalent to taxes re-
14 ceived in the Treasury under section 4286.

15 “(c) EXPENDITURES FROM FUND.—Amounts in the
16 Fund shall be made available, as provided by appropria-
17 tion Acts, for making expenditures to meet obligations au-
18 thorized to be paid out of the Fund under sections 2 and
19 3 of the Economy in Motion: The National Multimodal
20 and Sustainable Freight Infrastructure Act.”.

21 (b) CLERICAL AMENDMENT.—The table of sections
22 for subchapter A of chapter 98 of the Internal Revenue
23 Code of 1986 is amended by adding at the end the fol-
24 lowing new item:

“Sec. 9512. Freight Trust Fund.”.

1 **SEC. 6. FREIGHT MOBILITY INFRASTRUCTURE TAX.**

2 (a) IMPOSITION OF TAX.—Chapter 33 of the Internal
3 Revenue Code of 1986 is amended by inserting after sub-
4 chapter C the following new subchapter:

5 **“Subchapter D—Ground Transportation**
6 **Freight Tax**

“Sec. 4286. Imposition of tax.

7 **“SEC. 4286. IMPOSITION OF TAX.**

8 “(a) IN GENERAL.—There is hereby imposed upon
9 taxable ground transportation of property within the
10 United States a tax equal to 1 percent of the amount paid
11 for such transportation.

12 “(b) BY WHOM PAID.—

13 “(1) IN GENERAL.—The tax imposed by sub-
14 section (a) shall be paid—

15 “(A) by the person making the payment
16 subject to tax, or

17 “(B) in the case of transportation by a re-
18 lated person, by the person for whom such
19 transportation is made.

20 “(2) DETERMINATIONS OF AMOUNTS PAID IN
21 CERTAIN CASES.—For purposes of this section, rules
22 similar to the rules of section 4271(c) shall apply.

23 “(c) TRANSPORTATION BY RELATED PERSONS.—In
24 the case of transportation of property by the shipper or
25 a person related to the shipper, the fair market value of

1 such transportation shall be the amount which would be
2 paid for transporting such property if such property were
3 transported by an unrelated person, determined on an
4 arms' length basis.

5 “(d) DEFINITIONS.—For purposes of this sub-
6 chapter—

7 “(1) TAXABLE GROUND TRANSPORTATION.—
8 The term ‘taxable ground transportation’ means
9 transportation of property by—

10 “(A) freight rail, or

11 “(B) truck trailer and semitrailer chassis
12 and bodies, suitable for use with a trailer or
13 semitrailer which has a gross vehicle weight of
14 26,000 pounds or more.

15 For purposes of subparagraph (B), the terms ‘truck
16 trailer’ and ‘semitrailer’ have the same meanings as
17 such terms have in section 4051.

18 “(2) RELATED PERSON.—A person (hereinafter
19 in this paragraph referred to as the ‘related person’)
20 is related to any person if—

21 “(A) the related person bears a relation-
22 ship to such person specified in section 267(b)
23 or 707(b)(1), or

24 “(B) the related person and such person
25 are engaged in trades or businesses under com-

1 mon control (within the meaning of subsections
2 (a) and (b) of section 52).

3 For purposes of the preceding sentence, in applying
4 sections 267(b) and 707(b)(1), ‘10 percent’ shall be
5 substituted for ‘50 percent’ each place it appears.

6 “(e) EXEMPTION FOR UNITED STATES AND POSSES-
7 SIONS AND STATE AND LOCAL GOVERNMENTS.—The tax
8 imposed by subsection (a) shall not apply to amounts paid
9 for transportation of property purchased for the exclusive
10 use of the United States, or any State or political subdivi-
11 sion thereof.”.

12 (b) CREDITS OR REFUNDS TO PERSONS WHO COL-
13 LECTED CERTAIN TAXES.—Section 6415 of such Code is
14 amended by striking “or 4271” each place it appears and
15 inserting “4271, or 4286”.

16 (c) CLERICAL AMENDMENT.—The table of sub-
17 chapters for chapter 33 of the Internal Revenue Code of
18 1986 is amended by inserting after the item relating to
19 subchapter C the following new item:

“SUBCHAPTER D. GROUND TRANSPORTATION FREIGHT TAX”.

20 (d) REGULATIONS.—Not later than 180 days after
21 the date of the enactment of this Act, the Secretary of
22 the Treasury shall issue regulations to carry out the
23 amendments made by this section.

24 (e) EFFECTIVE DATE.—The amendments made by
25 this section shall apply to transportation beginning on or

- 1 after the last day of the 180-day period beginning on the
- 2 date of the issuance of regulations under subsection (c).

○

ATTACHMENT 2C

SB 513 (Beal) Carl Moyer Memorial Air Quality Standards Attainment Program

Summary: SB 513 updates and refines the Carl Moyer program to improve program efficiencies and outcomes pursuant to “The Five Pillars” approved by the Air Resources Board (ARB) and subsequently adopted by the South Coast AQMD Governing Board in February 2015.

Background:

California suffers from some of the worst air quality in the nation. On a statewide basis, approximately two-thirds of our air pollution is from cars, trucks, trains and other mobile sources. In the South Coast Basin, more than 80% of air pollution comes from such mobile sources. To meet upcoming State and Federal standards and protect public health, a 90 percent reduction in pollution is needed.

The Carl Moyer program (1998) addresses this need by providing funds to local air districts which, in turn, provide grants to equipment owners to deploy cleaner on-road, off-road, marine, locomotive, lawn and garden, and agricultural equipment, as well as to retire high-emitting passenger cars. The Carl Moyer program achieves early, cost-effective emission reductions that help meet State and Federal health-based air quality standards for ozone and particulate matter and complement regulations to achieve cleaner air.

In 2004, AB 923 allowed local air districts to collect vehicle registration fees to fund emission reduction projects. The AB 923 incentive program, which is under the Carl Moyer program umbrella, provides funds for Carl Moyer projects, lower-emission school buses, agricultural equipment, and high polluting vehicle scrap programs.

To date, the Carl Moyer program, along with the AB 923 program, have collectively replaced more than 46,000 engines and has removed more than 174,600 tons of smog and 6,400 tons of toxic diesel particulates.

In 2013, AB 8 extended revenues for both of the above programs until 2024 and required the Air Resources Board (ARB) and air districts to evaluate the Carl Moyer program. Last year, with public input, ARB and the air districts identified several current and likely future limitations of the program. These include the inability to: provide meaningful grant amounts to the cleanest, most advanced technologies; recognize greenhouse gas reductions and other project benefits; and combine the Carl Moyer program with other funding sources.

Status: April 6 – Amended and re-referred to Rules Committee. Amendments drafted jointly by Legislative Counsel, ARB and the California Air Pollution Control Officers

Association with input from the business community, the agricultural sector, environmentalists and other stakeholders.

Specific Provisions: Specifically, this bill would:

- Expand project categories for the Carl Moyer and AB 923 programs and allow the Carl Moyer program to adapt quickly and support future clean technologies.
- Establish a process to adjust the cost-effectiveness limit in order to recognize increasing costs of technology and projects that provide co-benefits, such as greenhouse gas reductions, technology advancement, and air quality improvements in the most polluted communities.
- Provide air districts the flexibility to recognize co-benefits when funding projects.
- Encourage leveraging with other funding sources to accomplish multiple goals.
- Streamline and update program administration requirements.

Impacts on SCAQMD’s mission, operations or initiatives:

The Carl Moyer program has been extraordinarily successful. In total 44% of the program funds have been allocated to the SCAQMD, and during the first 16 years of the program in the South Coast Basin, it has cleaned up over 10,000 high-polluting engines and vehicles, including the replacement or repower of heavy-duty trucks, transit buses, construction equipment, cargo handling equipment, marine vessels, and locomotives. These new engine sales represent economic activity in a down economy, and they have provided many small business owners with more fuel-efficient, better performing engines. In addition, these incentive funds have secured real and durable improvements in air quality, and reduced public exposure to harmful diesel particulates. The program has a high degree of transparency and accountability, and it leverages other funds.

Additionally, AB 923 (Firebaugh, 2004) has had an enormous and positive impact on air quality in the South Coast Region. This incentive program, under the Carl Moyer Program umbrella, has allowed the SCAQMD to replace approximately 900 school buses with new natural gas buses and retrofit about 600 diesel school buses with particulate traps for the amount of \$110 million. In addition 20 passenger locomotives operating in the South Coast Basin are in process of being repowered with low-emitting Tier 4 engines for the amount of \$52 million. AB 923 funds are also used to implement Carl Moyer type projects as SCAQMD’s required match to the state Carl Moyer Program funds.

This bill will allow locally directed funding to provide increased opportunities for projects such as school buses, trucks certified to lower emission standards, and fueling/charging infrastructure, as well as encourage renewable fueled, hybrid, battery electric, fuel cell and fuel efficiency improvement projects.

Recommended Position: SUPPORT

ATTACHMENT 2D

AMENDED IN SENATE APRIL 6, 2015

SENATE BILL

No. 513

Introduced by Senator Beall

February 26, 2015

~~An act relating to vehicular air pollution.~~ *An act to amend Sections 41081, 44223, 44225, 44229, 44233, 44275, 44281, 44282, 44283, 44286, 44287, 44287.1, 44287.2, 44288, 44291, and 44299.2 of, and to amend and repeal Section 44299.1 of, the Health and Safety Code, relating to vehicular air pollution.*

LEGISLATIVE COUNSEL'S DIGEST

SB 513, as amended, Beall. ~~Carl Moyer Memorial Air Quality Standards Attainment Program.~~ *Carl Moyer Memorial Air Quality Standards Attainment Program: fees.*

(1) Existing law authorizes the Sacramento Metropolitan Air Quality Management District to adopt a \$6 surcharge on motor vehicle registration fees applicable to motor vehicles registered within the district. Existing law requires the collected fees to be used for specified purposes, including, among others, awarding grants eligible for funding under the Carl Moyer Memorial Air Quality Standards Attainment Program.

This bill would additionally authorize those fees to be used for projects that involve alternative fuel and electric infrastructure, as specified.

(2) Existing law authorizes an air pollution control or air quality management district, except the Sacramento district, that has been designated by the State Air Resources Board as a state nonattainment area for any pollutant emitted by motor vehicles to levy a fee of up to \$6 on motor vehicles registered within the air district, subject to specified conditions.

This bill instead would authorize any air district, except the Sacramento district, regardless of its state attainment designation to levy a fee of up to \$6 on motor vehicles registered within the air district. The bill also would authorize those fees to be used for the attainment or maintenance of state or federal ambient air quality standards or the reduction of toxic air contaminant emissions from motor vehicles and for alternative fuel and electric infrastructure projects, as specified.

(3) Existing law establishes the Carl Moyer Memorial Air Quality Standards Attainment Program, which is administered by the state board, to provide grants to offset the incremental cost of eligible projects that reduce emissions of air pollutants from vehicular sources in the state and for funding a fueling infrastructure demonstration program and technology development efforts.

This bill would revise and recast provisions of the program, including, among others, changing the definition of covered source to include any marine vessel and any other category necessary for the state and air districts to meet air quality goals; authorizing the state board to adjust, rather than just reduce, the values of the maximum grant award criteria to improve the ability of the program to achieve its goals; authorizing the state board to reserve up to 10% of the program moneys available each year to directly fund any project the state board determines contributes toward the achievement of state air quality goals; removing the prohibition on using specified motor vehicle registration fees as matching funds; requiring the state board, instead of the State Energy Resources Conservation and Development Commission, to publish procedures to monitor and audit infrastructure projects; increasing the authorization for support and outreach costs from not more than 2% to not more than 2.5% of the moneys in the Air Pollution Control Fund; removing the repeal date of January 1, 2024, from the provisions on how moneys in the Air Pollution Control Fund are allocated and segregated; removing the repeal date of January 1, 2024, from the provisions regarding the terms and conditions for an allocation of moneys to an air district; and requiring an air district to liquidate the moneys by a specified date 4 years following the year of allocation and to return those moneys that have not been liquidated to the state board within 90 days.

(4) The California Global Warming Solutions Act of 2006 establishes the state board as the state agency responsible for monitoring and regulating sources emitting greenhouse gases. The act authorizes the state board to include the use of market-based compliance mechanisms.

Existing law requires all moneys, except for fines and penalties, collected by the state board from the auction or sale of allowances as part of a market-based compliance mechanism to be deposited in the Greenhouse Gas Reduction Fund and to be available upon appropriation by the Legislature.

This bill would authorize the state board to allocate moneys from the Greenhouse Gas Reduction Fund and other specified sources for the Carl Moyer Memorial Air Quality Standards Attainment Program without those other moneys being required to be factored into the criteria emission reduction cost-effectiveness calculations.

~~Existing law establishes the Carl Moyer Memorial Air Quality Standards Attainment Program, which is administered by the State Air Resources Board, to provide grants to offset the incremental cost of eligible projects that reduce emissions of air pollutants from vehicular sources in the state and for funding a fueling infrastructure demonstration program and technology development efforts.~~

~~This bill would state the intent of the Legislature to enact legislation to amend the program to achieve even greater air quality benefits.~~

Vote: majority. Appropriation: no. Fiscal committee: ~~no~~-yes.
State-mandated local program: no.

The people of the State of California do enact as follows:

1 SECTION 1. Section 41081 of the Health and Safety Code, as
2 amended by Section 1 of Chapter 401 of the Statutes of 2013, is
3 amended to read:
4 41081. (a) Subject to Article 3.7 (commencing with Section
5 53720) of Chapter 4 of Part 1 of Division 2 of Title 5 of the
6 Government Code, or with the approval of the board of supervisors
7 of each county included, in whole or in part, within the Sacramento
8 district, the Sacramento district board may adopt a surcharge on
9 the motor vehicle registration fees applicable to all motor vehicles
10 registered in those counties within the Sacramento district whose
11 boards of supervisors have adopted a resolution approving the
12 surcharge. The surcharge shall be collected by the Department of
13 Motor Vehicles and, after deducting the department's
14 administrative costs, the remaining funds shall be transferred to
15 the Sacramento district. Prior to the adoption of any surcharge
16 pursuant to this subdivision, the district board shall make a finding
17 that any funds allocated to the district as a result of the adoption

1 of a county transportation sales and use tax are insufficient to carry
2 out the purposes of this chapter.

3 (b) The surcharge shall not exceed six dollars (\$6).

4 (c) After consulting with the Department of Motor Vehicles on
5 the feasibility thereof, the Sacramento district board may provide,
6 in the surcharge adopted pursuant to subdivision (a), to exempt
7 from all or part of the surcharge any category of low-emission
8 motor vehicle.

9 (d) Funds received by the Sacramento district pursuant to this
10 section shall be used by that district as follows:

11 (1) The revenues resulting from the first four dollars (\$4) of
12 each surcharge shall be used to implement reductions in emissions
13 from vehicular sources, including, but not limited to, a clean fuels
14 program and motor vehicle use reduction measures.

15 (2) The revenues resulting from the next two dollars (\$2) of
16 each surcharge shall be used to implement the following programs
17 that achieve emission reductions from vehicular sources and
18 off-road engines, to the extent that the district determines the
19 program remediates air pollution harms created by motor vehicles
20 on which the surcharge is imposed:

21 (A) Projects eligible for grants under the Carl Moyer Memorial
22 Air Quality Standards Attainment Program (Chapter 9
23 commencing with Section 44275) of Part 5).

24 (B) The new purchase, retrofit, repower, or add-on of equipment
25 for previously unregulated agricultural sources of air pollution, as
26 defined in Section 39011.5, within the Sacramento district, for a
27 minimum of three years from the date of adoption of an applicable
28 rule or standard, or until the compliance date of that rule or
29 standard, whichever is later, if the state board has determined that
30 the rule or standard complies with Sections 40913, 40914, and
31 41503.1, after which period of time, a new purchase, retrofit,
32 repower, or add-on of equipment shall not be funded pursuant to
33 this chapter. The district shall follow any guidelines developed
34 under subdivision (a) of Section 44287 for awarding grants under
35 this program.

36 (C) The purchase of ~~new~~, *new schoolbuses, or the purchase for*
37 *the repower or retrofit of emissions control equipment for existing,*
38 *for existing schoolbuses pursuant to the Lower-Emission School*
39 *Bus Program adopted by the state board.*

1 (D) An accelerated vehicle retirement or repair program that is
2 adopted by the state board pursuant to authority granted hereafter
3 by the Legislature by statute.

4 (E) The replacement of onboard natural gas fuel tanks on
5 schoolbuses ~~owned by a school district that are 14 years or older,~~
6 ~~not to exceed twenty thousand dollars (\$20,000) per bus, older or~~
7 *the enhancement of deteriorating natural gas fueling dispensers*
8 *of fueling infrastructure*, pursuant to the Lower-Emission School
9 Bus Program adopted by the state board.

10 ~~(F) The enhancement of deteriorating natural gas fueling~~
11 ~~dispensers of fueling infrastructure operated by a school district~~
12 ~~with a one-time funding amount not to exceed five hundred dollars~~
13 ~~(\$500) per dispenser, pursuant to the Lower-Emission School Bus~~
14 ~~Program adopted by the state board.~~

15 *(F) The funding of alternative fuel and electric infrastructure*
16 *projects solicited and selected through a competitive bid process.*

17 (e) Not more than ~~5~~ 6.25 percent of the funds collected pursuant
18 to this section shall be used by the district for administrative
19 expenses.

20 (f) A project funded by the program shall not be used for credit
21 under any state or federal emissions averaging, banking, or trading
22 program. An emission reduction generated by the program shall
23 not be used as marketable emission reduction credits or to offset
24 any emission reduction obligation of any person or entity. Projects
25 involving new engines that would otherwise generate marketable
26 credits under state or federal averaging, banking, and trading
27 programs shall include transfer of credits to the engine end user
28 and retirement of those credits toward reducing air emissions in
29 order to qualify for funding under the program. A purchase of a
30 low-emission vehicle or of equipment pursuant to a corporate or
31 a controlling board's policy, but not otherwise required by law,
32 shall generate surplus emissions reductions and may be funded by
33 the program.

34 (g) This section shall remain in effect only until January 1, 2024,
35 and as of that date is repealed, unless a later enacted statute, that
36 is enacted before January 1, 2024, deletes or extends that date.

37 *SEC. 2. Section 44223 of the Health and Safety Code is*
38 *amended to read:*

39 44223. (a) In addition to any other fees specified in this code,
40 the Vehicle Code, and the Revenue and Taxation Code, a district,

1 except the Sacramento district, ~~which has been designated by the~~
2 ~~state board as a state nonattainment area for any pollutant emitted~~
3 ~~by motor vehicles~~ may levy a fee of up to two dollars (\$2) on motor
4 vehicles registered within the district. A district may impose the
5 fee only if the district board adopts a resolution providing for both
6 the fee and a corresponding program for the reduction of air
7 pollution from motor vehicles pursuant to, and for related planning,
8 monitoring, enforcement, and technical studies necessary for the
9 implementation of, the California Clean Air Act of 1988 (Chapter
10 1568 of the Statutes of 1988), *or for the attainment or maintenance*
11 *of state or federal ambient air quality standards or the reduction*
12 *of toxic air contaminant emissions from motor vehicles.*

13 (b) In districts with nonelected officials on their boards, a
14 resolution adopted pursuant to subdivision (a) shall be approved
15 by both a majority of the board and a majority of the board
16 members who are elected officials.

17 (c) A fee imposed pursuant to this section shall become
18 effective on either April 1 or October 1, as provided in the
19 resolution adopted by the board pursuant to subdivision (a).

20 *SEC. 3. Section 44225 of the Health and Safety Code, as*
21 *amended by Section 6 of Chapter 401 of the Statutes of 2013, is*
22 *amended to read:*

23 44225. A district may increase the fee established under Section
24 44223 to up to six dollars (\$6). A district may increase the fee only
25 if the following conditions are met:

26 (a) A resolution providing for both the fee increase and a
27 corresponding program for expenditure of the increased fees for
28 the reduction of air pollution from motor vehicles pursuant to, and
29 for related planning, monitoring, enforcement, and technical studies
30 necessary for the implementation of, the California Clean Air Act
31 of 1988, *or for the attainment or maintenance of state or federal*
32 *ambient air quality standards or the reduction of toxic air*
33 *contaminant emissions from motor vehicles*, is adopted and
34 approved by the governing board of the district.

35 (b) In districts with nonelected officials on their governing
36 boards, the resolution shall be adopted and approved by both a
37 majority of the governing board and a majority of the board
38 members who are elected officials.

1 (c) An increase in fees established pursuant to this section shall
2 become effective on either April 1 or October 1, as provided in
3 the resolution adopted by the board pursuant to subdivision (a).

4 (d) This section shall remain in effect only until January 1, 2024,
5 and as of that date is repealed, unless a later enacted statute, that
6 is enacted before January 1, 2024, deletes or extends that date.

7 *SEC. 4. Section 44229 of the Health and Safety Code, as*
8 *amended by Section 8 of Chapter 401 of the Statutes of 2013, is*
9 *amended to read:*

10 44229. (a) After deducting all administrative costs it incurs
11 through collection of fees pursuant to Section 44227, the
12 Department of Motor Vehicles shall distribute the revenues to
13 districts, which shall use the revenues resulting from the first four
14 dollars (\$4) of each fee imposed to reduce air pollution from motor
15 vehicles and to carry out related planning, monitoring, enforcement,
16 and technical studies necessary for implementation of the California
17 Clean Air Act of 1988. Fees collected by the Department of Motor
18 Vehicles pursuant to this chapter shall be distributed to districts
19 based upon the amount of fees collected from motor vehicles
20 registered within each district.

21 (b) Notwithstanding Sections 44241 and 44243, a district shall
22 use the revenues resulting from the next two dollars (\$2) of each
23 fee imposed pursuant to Section 44227 to implement the following
24 programs that the district determines remediate air pollution harms
25 created by motor vehicles on which the surcharge is imposed:

26 (1) Projects eligible for grants under the Carl Moyer Memorial
27 Air Quality Standards Attainment Program (Chapter 9
28 (commencing with Section 44275) of Part 5).

29 (2) The new purchase, retrofit, repower, or add-on equipment
30 for previously unregulated agricultural sources of air pollution, as
31 defined in Section 39011.5, for a minimum of three years from
32 the date of adoption of an applicable rule or standard, or until the
33 compliance date of that rule or standard, whichever is later, if the
34 state board has determined that the rule or standard complies with
35 Sections 40913, 40914, and 41503.1, after which period of time,
36 a new purchase, retrofit, repower, or add-on of equipment shall
37 not be funded pursuant to this chapter. The districts shall follow
38 any guidelines developed under subdivision (a) of Section 44287
39 for awarding grants under this program.

1 (3) The purchase of ~~new~~, *new schoolbuses*, or *the purchase for*
2 *the repower or retrofit* of emissions control equipment for ~~existing~~,
3 *existing* schoolbuses pursuant to the Lower-Emission School Bus
4 Program adopted by the state board.

5 (4) An accelerated vehicle retirement or repair program that is
6 adopted by the state board pursuant to authority granted hereafter
7 by the Legislature by statute.

8 (5) The replacement of onboard natural gas fuel tanks on
9 schoolbuses ~~owned by a school district~~ that are 14 years or ~~older~~,
10 ~~not to exceed twenty thousand dollars (\$20,000) per bus~~, *older or*
11 *the enhancement of deteriorating natural gas fueling dispensers*,
12 pursuant to the Lower-Emission School Bus Program adopted by
13 the state board.

14 ~~(6) The enhancement of deteriorating natural gas fueling~~
15 ~~dispensers of fueling infrastructure operated by a school district~~
16 ~~with a one-time funding amount not to exceed five hundred dollars~~
17 ~~(\$500) per dispenser, pursuant to the Lower-Emission School Bus~~
18 ~~Program adopted by the state board.~~

19 *(6) The funding of alternative fuel and electric infrastructure*
20 *projects solicited and selected through a competitive bid process.*

21 (c) The Department of Motor Vehicles may annually expend
22 not more than 1 percent of the fees collected pursuant to Section
23 44227 on administrative costs.

24 (d) A project funded by the program shall not be used for credit
25 under any state or federal emissions averaging, banking, or trading
26 program. An emission reduction generated by the program shall
27 not be used as marketable emission reduction credits or to offset
28 any emission reduction obligation of any person or entity. Projects
29 involving new engines that would otherwise generate marketable
30 credits under state or federal averaging, banking, and trading
31 programs shall include transfer of credits to the engine end user
32 and retirement of those credits toward reducing air emissions in
33 order to qualify for funding under the program. A purchase of a
34 low-emission vehicle or of equipment pursuant to a corporate or
35 a controlling board's policy, but not otherwise required by law,
36 shall generate surplus emissions reductions and may be funded by
37 the program.

38 (e) This section shall remain in effect only until January 1, 2024,
39 and as of that date is repealed, unless a later enacted statute, that
40 is enacted before January 1, 2024, deletes or extends that date.

1 SEC. 5. Section 44233 of the Health and Safety Code is
2 amended to read:

3 44233. Not more than 6.25 percent of the fees distributed to
4 any district pursuant to Section 44229, or distributed by a district
5 to any other public agency pursuant to this chapter, shall be used
6 by the district or other public agency for administrative costs.

7 SEC. 6. Section 44275 of the Health and Safety Code, as
8 amended by Section 15 of Chapter 401 of the Statutes of 2013, is
9 amended to read:

10 44275. (a) As used in this chapter, the following terms have
11 the following meanings:

12 (1) ~~“Advisory board” means the Carl Moyer Program Advisory~~
13 ~~Board created by Section 44297.~~

14 (1) (A) “Ancillary benefits” includes additional project benefits
15 beyond the reductions in covered emissions, including reductions
16 in greenhouse gases, short-lived climate pollutants, and other
17 benefits, such as benefits to communities described in subdivision
18 (a) of Section 43023.5, fuel-efficiency improvements, or the
19 deployment of advanced technology.

20 (B) The state board shall define ancillary benefits pursuant to
21 the process described in Section 44287.

22 (2) “Btu” means British thermal unit.

23 (3) “Commission” means the State Energy Resources
24 Conservation and Development Commission.

25 (4) “Cost-effectiveness” means dollars provided to a project
26 pursuant to subdivision (d) of Section 44283 for each ton of
27 covered emission reduction attributed to a project or to the program
28 as a whole. In calculating cost-effectiveness, one-time grants of
29 funds made at the beginning of a project shall be annualized using
30 a time value of public funds or discount rate determined for each
31 project by the state board, taking into account the interest rate on
32 bonds, interest earned by state funds, and other factors as
33 determined appropriate by the state board. Cost-effectiveness shall
34 be calculated by dividing annualized costs by average annual
35 emissions reduction. The state board, in consultation with the
36 districts and concerned members of the public, shall establish
37 appropriate cost-effective limits for oxides of nitrogen, particulate
38 matter, and reactive organic gases and a reasonable system for
39 comparing the cost-effectiveness of proposed projects as described
40 in subdivision (a) of Section 44283.

- 1 (5) “Covered emissions” include emissions of oxides of nitrogen,
2 particulate matter, and reactive organic gases from any covered
3 source.
- 4 (6) “Covered engine” includes any internal combustion engine
5 or electric motor and drive powering a covered source.
- 6 (7) “Covered source” includes onroad vehicles, off-road
7 nonrecreational equipment and vehicles, locomotives, ~~diesel~~ marine
8 vessels, agricultural sources of air pollution, as defined in Section
9 39011.5, and, as determined by the state board, other ~~high-emitting~~
10 ~~engine~~ categories *necessary for the state and districts to meet air*
11 *quality goals*.
- 12 (8) “Covered vehicle” includes any vehicle or piece of
13 equipment powered by a covered engine.
- 14 (9) “District” means a county air pollution control district or an
15 air quality management district.
- 16 (10) “Fund” means the Air Pollution Control Fund established
17 pursuant to Section 43015.
- 18 (11) “Mobile Source Air Pollution Reduction Review
19 Committee” means the Mobile Source Air Pollution Reduction
20 Review Committee created by Section 44244.
- 21 (12) “Incremental cost” means the cost of the project ~~less a~~
22 ~~baseline cost~~ that would *not* otherwise be incurred by the applicant
23 in the normal course of business. Incremental costs may include
24 added ~~lease~~ *lease, energy*, or fuel costs pursuant to Section 44283
25 as well as incremental capital costs.
- 26 (13) “New very low emission vehicle” means a heavy-duty
27 vehicle that qualifies as a very low emission vehicle when it is a
28 new vehicle, where new vehicle has the same meaning as defined
29 in Section 430 of the Vehicle Code, or that is modified with the
30 approval and warranty of the original equipment manufacturer to
31 qualify as a very low emission vehicle within 12 months of delivery
32 to an owner for private or commercial use.
- 33 (14) “NO_x” means oxides of nitrogen.
- 34 (15) “Program” means the Carl Moyer Memorial Air Quality
35 Standards Attainment Program created by subdivision (a) of
36 Section 44280.
- 37 (16) “Repower” means replacing an engine with a different
38 engine. The term repower, as used in this chapter, generally refers
39 to replacing an older, uncontrolled engine with a new,
40 emissions-certified engine, although replacing an older

1 emissions-certified engine with a newer engine certified to lower
2 emissions standards may be eligible for funding under this program.

3 (17) “Retrofit” means making modifications to the engine and
4 fuel system such so that the retrofitted engine does not have the
5 same specifications as the original engine.

6 (18) “Very low emission vehicle” means a heavy-duty vehicle
7 with emissions significantly lower than otherwise applicable
8 baseline emission standards or uncontrolled emission levels
9 pursuant to Section 44282.

10 (b) This section shall remain in effect only until January 1, 2024,
11 and as of that date is repealed, unless a later enacted statute, that
12 is enacted before January 1, 2024, deletes or extends that date.

13 *SEC. 7. Section 44281 of the Health and Safety Code, as*
14 *amended by Section 19 of Chapter 401 of the Statutes of 2013, is*
15 *amended to read:*

16 44281. (a) Eligible projects include, but are not limited to, any
17 of the following:

18 (1) Purchase of new very low or zero-emission covered vehicles
19 or covered heavy-duty engines.

20 (2) Emission-reducing retrofit of covered engines, or
21 replacement of old engines powering covered sources with newer
22 engines certified to more stringent emissions standards than the
23 engine being replaced, or with electric motors or drives.

24 (3) Purchase and use of emission-reducing add-on equipment
25 that has been verified by the state board for covered vehicles.

26 (4) Development and demonstration of practical, low-emission
27 retrofit technologies, repower options, and advanced technologies
28 for covered engines and vehicles with very low emissions of NO_x.

29 (5) Light- and medium-duty vehicle projects in compliance with
30 guidelines adopted by the state board pursuant to Title 13 of the
31 California Code of Regulations.

32 (b) No project shall be funded under this chapter after the
33 compliance date required by any local, state, or federal statute,
34 rule, regulation, memoranda of agreement or understanding, or
35 other legally binding document, except that an otherwise qualified
36 project may be funded even if the state implementation plan
37 assumes that the change in equipment, vehicles, or operations will
38 occur, if the change is not required by the compliance date of a
39 statute, regulation, or other legally binding document in effect as
40 of the date the grant is awarded. No project funded by the program

1 shall be used for credit under any state or federal emissions
2 averaging, banking, or trading program. No *covered* emission
3 reduction generated by the program shall be used as marketable
4 emission reduction credits or to offset any emission reduction
5 obligation of any person or entity. Projects involving new engines
6 that would otherwise generate marketable credits under state or
7 federal averaging, banking, and trading programs shall include
8 transfer of credits to the engine end user and retirement of those
9 credits toward reducing air emissions in order to qualify for funding
10 under the program. A purchase of a low-emission vehicle or of
11 equipment pursuant to a corporate or a controlling board's policy,
12 but not otherwise required by law, shall generate surplus emissions
13 reductions and may be funded by the program.

14 (c) The program may also provide funding toward *the*
15 *installation of fueling or electrification infrastructure as provided*
16 ~~in Section 44284.~~ *energy infrastructure to fuel or power covered*
17 *sources.*

18 (d) Eligible applicants may be any individual, company, or
19 public agency that owns one or more covered vehicles that operate
20 primarily within California or otherwise contribute substantially
21 to the NO_x, particulate matter (PM), or reactive organic gas (ROG)
22 emissions inventory in California.

23 (e) It is the intent of the Legislature that all emission reductions
24 generated by this chapter shall contribute to public health by
25 reducing, for the life of the vehicle being funded, the total amount
26 of emissions in California.

27 (f) This section shall remain in effect only until January 1, 2024,
28 and as of that date is repealed, unless a later enacted statute, that
29 is enacted before January 1, 2024, deletes or extends that date.

30 *SEC. 8. Section 44282 of the Health and Safety Code, as*
31 *amended by Section 21 of Chapter 401 of the Statutes of 2013, is*
32 *amended to read:*

33 44282. The following criteria apply to all projects to be funded
34 through the program except for projects funded through the
35 infrastructure demonstration program *and infrastructure projects,*
36 *pursuant to subdivision (c) of Section 44281 and Section 44284:*

37 (a) The state board may establish project criteria, including
38 minimum project life for source categories, in the guidelines
39 described in Section 44287. For previously unregulated source

1 categories, project criteria shall consider the timing of newly
2 established regulatory requirements.

3 (b) To be eligible, projects shall meet the cost-effectiveness per
4 ton of covered emissions reduced requirements of Section 44283.

5 (c) To be eligible, retrofits, repowers, and installation of add-on
6 equipment for covered vehicles shall be performed, or new covered
7 vehicles delivered to the end user, or covered vehicles scrapped
8 on or after the date the program is implemented.

9 (d) Retrofit technologies, new engines, and new vehicles shall
10 be certified for sale or under experimental permit for operation in
11 California.

12 (e) Repower projects that replace older, uncontrolled engines
13 with new, emissions-certified engines or that replace
14 emissions-certified engines with new engines certified to a more
15 stringent NO_x emissions standard are approvable subject to the
16 other applicable selection criteria. The state board shall determine
17 appropriate baseline emission levels for the uncontrolled engines
18 being replaced.

19 (f) For heavy-duty-vehicle projects, retrofit and add-on
20 equipment projects shall document a NO_x or PM emission
21 reduction of at least 25 percent and no increase in other covered
22 emissions compared to the applicable baseline emissions accepted
23 by the state board for that engine year and application. The state
24 board shall determine appropriate baseline emission levels.
25 Acceptable documentation shall be defined by the state board.
26 After study of available emission reduction technologies and after
27 public notice and comment, the state board may revise the
28 minimum percentage emission reduction criterion for retrofits and
29 add-on equipment provided for in this section to improve the ability
30 of the program to achieve its goals.

31 (g) (1) For heavy-duty-vehicle projects involving the purchase
32 of new very low or zero-emission vehicles, engines shall be
33 certified to an optional low NO_x emissions standard established
34 by the state board, except as provided for in paragraph (2).

35 (2) For heavy-duty-vehicle projects involving the purchase of
36 new very low or zero-emission covered vehicles for which no
37 optional low NO_x emission standards are available, documentation
38 shall be provided showing that the low or zero-emission engine
39 emits not more than 70 percent of the NO_x or NO_x plus
40 hydrocarbon emissions of a new engine certified to the applicable

1 baseline NO_x or NO_x plus hydrocarbon emission standard for that
2 engine and meets applicable particulate standards. The state board
3 shall specify the documentation required. If no baseline emission
4 standard exists for new vehicles in a particular category, the state
5 board shall determine an appropriate baseline emission level for
6 comparison.

7 (h) For projects other than heavy-duty-vehicle projects, the state
8 board shall determine appropriate criteria under the provisions of
9 Section 44287.

10 (i) This section shall remain in effect only until January 1, 2024,
11 and as of that date is repealed, unless a later enacted statute, that
12 is enacted before January 1, 2024, deletes or extends that date.

13 *SEC. 9. Section 44283 of the Health and Safety Code, as*
14 *amended by Section 23 of Chapter 401 of the Statutes of 2013, is*
15 *amended to read:*

16 ~~44283. (a) Grants shall not be made for projects with a~~
17 ~~cost-effectiveness, calculated in accordance with this section, of~~
18 ~~more than thirteen thousand six hundred dollars (\$13,600) per ton~~
19 ~~of NO_x reduced in California or a higher value that reflects state~~
20 ~~consumer price index adjustments on or after January 1, 2006, as~~
21 ~~determined by the state board. For projects obtaining reactive~~
22 ~~organic gas and particulate matter reductions, the state board shall~~
23 ~~determine appropriate adjustment factors to calculate a weighted~~
24 ~~cost-effectiveness.~~

25 *44283. (a) (1) For all projects funded pursuant to this chapter,*
26 *except for an infrastructure project described in subdivision (c)*
27 *of Section 44281, the following cost-effectiveness criteria shall*
28 *apply:*

29 (A) (i) *Project grants shall not be made that exceed a*
30 *cost-effectiveness, calculated in accordance with this section.*

31 (ii) *The state board, in collaboration with the districts, shall*
32 *establish cost-effectiveness values in the guidelines issued pursuant*
33 *to Section 44287, taking into consideration factors, including, but*
34 *not limited to, the following:*

35 (I) *The ability of the project to provide ancillary benefits, as*
36 *defined in paragraph (1) of subdivision (a) of Section 44275, such*
37 *as reductions in greenhouse gases and short-lived climate*
38 *pollutants, benefits to communities described in subdivision (a) of*
39 *Section 43023.5, fuel-efficiency improvements, or the deployment*
40 *of advanced technology.*

1 (II) *The cost of emission control technologies identified in*
2 *Section 44281.*

3 (III) *The cost-effectiveness values for NOx, particulate matter,*
4 *or reactive organic gases for any adopted rule or control measure*
5 *in any district's approved state implementation plan, or rule*
6 *adopted by the state board.*

7 (B) *For projects obtaining reactive organic gas and particulate*
8 *matter reductions, the state board shall determine appropriate*
9 *adjustment factors to calculate a weighted cost-effectiveness.*

10 (2) *When a district board approves funding for a project or*
11 *project category, the district board:*

12 (A) *May recognize the ancillary benefit, as defined in paragraph*
13 *(1) of subdivision (a) of Section 44275, when determining the grant*
14 *amount for a project or project category.*

15 (B) *Shall, for the meeting approving funding for the project or*
16 *project category, include in its agenda or supporting materials a*
17 *brief statement of the rationale for funding that source category,*
18 *including the basis for selection and the importance of that project*
19 *type.*

20 (b) *Only covered emission reductions occurring in this state*
21 *shall be included in the cost-effectiveness determination. The*
22 *extent to which emissions generated at sea contribute to air quality*
23 *in California nonattainment areas shall be incorporated into these*
24 *methodologies based on a reasonable assessment of currently*
25 *available information and modeling assumptions.*

26 (c) *The state board shall develop protocols for calculating the*
27 *surplus covered emission reductions in California from*
28 *representative project types over the life of the project.*

29 (d) *The cost of the covered emission reduction is the amount*
30 *of the grant from the program, including matching funds provided*
31 *pursuant to subdivision (e) of Section 44287, ~~plus any other state~~*
32 *~~funds, or funds under the district's budget authority or fiduciary~~*
33 *~~control, provided toward the project, or funding provided pursuant~~*
34 *~~to paragraph (2) of subdivision (d) of Section 41081 or subdivision~~*
35 *~~(b) of Section 44229, not including funds described in paragraphs~~*
36 *~~(1) and (2) of subdivision (a) of Section 44287.2. The state board~~*
37 *shall establish reasonable methodologies for evaluating project*
38 *cost-effectiveness, consistent with the definition contained in*
39 *paragraph (4) of subdivision (a) of Section 44275, and with*

1 accepted methods, taking into account a fair and reasonable
2 discount rate or time value of public funds.

3 (e) A grant shall not be made that, net of taxes, provides the
4 applicant with funds in excess of the incremental cost of the project.
5 Incremental lease costs may be capitalized according to guidelines
6 adopted by the state board so that these incremental costs may be
7 offset by a one-time grant award.

8 (f) Funds under a district's budget authority or fiduciary control
9 may be used to pay for the incremental cost of *energy or* liquid or
10 gaseous fuel, other than standard gasoline or diesel, which is
11 integral to a covered emission reducing technology that is part of
12 a project receiving grant funding under the program. The fuel shall
13 be approved for sale ~~by the state board~~ *in the state*. The
14 incremental *energy or* fuel cost over the expected lifetime of the
15 vehicle may be offset by the district if the project as a whole,
16 including the incremental *energy or* fuel cost, meets all of the
17 requirements of this chapter, including the maximum allowed
18 cost-effectiveness. The state board shall develop an appropriate
19 methodology for converting incremental *energy or* fuel costs over
20 the vehicle lifetime into an initial cost for the purposes of
21 determining project cost-effectiveness. Incremental *energy or* fuel
22 costs shall not be included in project costs for fuels dispensed from
23 any facility that was funded, in whole or in part, from the fund.

24 (g) For *the* purposes of determining any grant amount pursuant
25 to this chapter, ~~the incremental cost of any new purchase, retrofit,~~
26 ~~repower, or add-on equipment shall be reduced by the value of~~
27 ~~any current financial incentive that directly reduces the project~~
28 ~~price, including any tax credits or deductions, grants, or other~~
29 ~~public financial assistance, not including funds described in~~
30 ~~paragraphs (1) and (2) of subdivision (a) of Section 44287.2.~~
31 Project *project* proponents applying for funding shall be required
32 to state in their application any other public financial assistance
33 to the project.

34 (h) For projects that would repower off-road equipment by
35 replacing uncontrolled diesel engines with new, certified diesel
36 engines, the state board may establish maximum grant award
37 amounts per repower. A repower project shall also be subject to
38 the incremental cost maximum pursuant to subdivision (e).

39 (i) After study of available emission reduction technologies and
40 costs and after public notice and comment, the state board may

1 ~~reduce~~ *adjust* the values of the maximum grant award criteria stated
2 in this section to improve the ability of the program to achieve its
3 goals. Every year the state board shall adjust the maximum
4 cost-effectiveness amount established in subdivision (a) and any
5 per-project maximum set by the state board pursuant to subdivision
6 (h) to account for inflation *and other economic factors, as*
7 *determined by the state board.*

8 (j) This section shall remain in effect only until January 1, 2024,
9 and as of that date is repealed, unless a later enacted statute, that
10 is enacted before January 1, 2024, deletes or extends that date.

11 *SEC. 10. Section 44286 of the Health and Safety Code is*
12 *amended to read:*

13 44286. (a) The responsibilities of the state board include
14 management of program funds and program oversight. The state
15 board is responsible for producing guidelines, protocols, and
16 criteria for covered vehicle projects and developing methodologies
17 for evaluating project cost-effectiveness in accordance with this
18 chapter. The state board shall have primary responsibility for the
19 reporting aspects of the program.

20 (b) The responsibilities of a district include local administration
21 of project funds, monitoring funded projects, and reporting results
22 to the state board, in accordance with this chapter. Any project
23 funds awarded to a successful applicant shall be disbursed by the
24 district.

25 (c) Relative to the allocation of funds in the south coast district,
26 for purposes of this program, Mobile Source Air Pollution
27 Reduction Review Committee funds shall only be used as matching
28 funds upon approval, by minute action, of the Mobile Source Air
29 Pollution Reduction Review Committee.

30 (d) The state board may reserve up to 10 percent of the program
31 funds available each year to directly fund any project *described*
32 *in Section 44281* that is multidistrict in nature *or the state board*
33 *determines contributes toward the achievement of state air quality*
34 *goals.* A project that is multidistrict in nature shall be funded by
35 the state board in coordination with the appropriate districts. The
36 state board shall coordinate outreach efforts with a participating
37 district to ensure that any parallel availability of a district grant
38 and a grant from the state board is clear to an eligible applicant.
39 Reserved funds not committed to a project funded directly by the

1 state board by the end of the fiscal year shall be made available to
2 the districts in the following year.

3 (e) The commission, in consultation with the state board, shall
4 manage the Advanced Technology Account and the Infrastructure
5 Demonstration Program in accordance with this chapter.

6 (f) The state board shall work closely with the commission and
7 the districts for the duration of this program to maximize the ability
8 of the program to achieve its goals.

9 (g) The state board and the districts shall take all appropriate
10 and necessary actions to ensure that emissions reductions achieved
11 through the program are credited by the United States
12 Environmental Protection Agency to the appropriate emission
13 reduction objectives in the State Implementation Plan.

14 *SEC. 11. Section 44287 of the Health and Safety Code, as*
15 *amended by Section 25 of Chapter 401 of the Statutes of 2013, is*
16 *amended to read:*

17 44287. (a) The state board shall establish or update grant
18 criteria and guidelines consistent with this chapter for covered
19 vehicle *and infrastructure* projects as soon as practicable, but not
20 later than ~~January 1, 2006~~ *July 1, 2017*. The adoption of guidelines
21 is exempt from the rulemaking provisions of the Administrative
22 Procedure Act, Chapter 3.5 (commencing with Section 11340) of
23 Part 1 of Division 3 of Title 2 of the Government Code. The state
24 board shall solicit input and comment from the districts during the
25 development of the criteria and guidelines and shall make every
26 effort to develop criteria and guidelines that are compatible with
27 existing district programs that are also consistent with this chapter.
28 Guidelines shall include protocols to calculate project
29 cost-effectiveness. The grant criteria and guidelines shall include
30 safeguards to ensure that the project generates surplus emissions
31 reductions. Guidelines shall enable and encourage districts to
32 cofund projects that provide emissions reductions in more than
33 one district. The state board shall make draft criteria and guidelines
34 available to the public 45 days before final adoption, and shall
35 hold at least one public meeting to consider public comments
36 before final adoption. The state board may develop separate
37 guidelines and criteria for the different types of eligible projects
38 described in subdivision (a) of Section 44281.

39 (b) The state board, in consultation with the participating
40 districts, may propose revisions to the criteria and guidelines

1 established pursuant to subdivision (a) as necessary to improve
2 the ability of the program to achieve its goals. A proposed revision
3 shall be made available to the public 45 days before final adoption
4 of the revision and the state board shall hold at least one public
5 meeting to consider public comments before final adoption of the
6 revision.

7 (c) The state board shall reserve funds for, and disburse funds
8 to, districts from the fund for administration pursuant to this section
9 and Section 44299.1.

10 (d) The state board shall develop guidelines for a district to
11 follow in applying for the reservation of funds, in accordance with
12 this chapter. It is the intent of the Legislature that district
13 administration of any reserved funds be in accordance with the
14 project selection criteria specified in Sections 44281, 44282, and
15 44283 and all other provisions of this chapter. The guidelines shall
16 be established and published by the state board as soon as
17 practicable, but not later than January 1, 2006.

18 (e) Funds shall be reserved by the state board for administration
19 by a district that adopts an eligible program pursuant to this chapter
20 and offers matching funds at a ratio of one dollar (\$1) of matching
21 funds committed by the district or the Mobile Source Air Pollution
22 Reduction Review Committee for every two dollars (\$2) committed
23 from the fund. Funds available to the Mobile Source Air Pollution
24 Reduction Review Committee may be counted as matching funds
25 for projects in the South Coast Air Basin only if the committee
26 approves the use of these funds for matching purposes. Matching
27 funds may be any funds under the district's budget authority that
28 are committed to be expended in accordance with the program.
29 Funds committed by a port authority or a local government, in
30 cooperation with a district, to be expended in accordance with the
31 program may also be counted as district matching funds. Matching
32 funds provided by a port authority or a local government ~~may~~ *shall*
33 not exceed 30 percent of the total required matching funds in any
34 district that applies for more than three hundred thousand dollars
35 (\$300,000) of the state board funds. Only a district, or a port
36 authority or a local government teamed with a district, may provide
37 matching funds.

38 (f) The state board may adjust the ratio of matching funds
39 described in subdivision (e), if it determines that an adjustment is
40 necessary in order to maximize the use of, or the air quality benefits

1 provided by, the program, based on a consideration of the financial
2 resources of the district.

3 (g) Notwithstanding subdivision (e), a district need not provide
4 matching funds for state board funds allocated to the district for
5 program outreach activities pursuant to paragraph (4) of subdivision
6 (a) of Section 44299.1.

7 (h) A district may include within its matching funds a reasonable
8 estimate of direct or in-kind costs for assistance in providing
9 program outreach and application evaluation. In-kind and direct
10 matching funds shall not exceed 15 percent of the total matching
11 funds offered by a district. A district may also include within its
12 matching funds any money spent on or after February 25, 1999,
13 that would have qualified as matching funds but were not
14 previously claimed as matching funds.

15 (i) A district desiring a reservation of funds shall apply to the
16 state board following the application guidelines established
17 pursuant to this section. The state board shall approve or disapprove
18 a district application not later than 60 days after receipt. Upon
19 approval of any district application, the state board shall
20 simultaneously approve a reservation of funding for that district
21 to administer. Reserved funds shall be disbursed to the district so
22 that funding of a district-approved project is not impeded.

23 ~~(j) Notwithstanding any other provision of this chapter, districts
24 and the Mobile Source Air Pollution Reduction Review Committee
25 shall not use funds collected pursuant to Section 41081 or Chapter
26 7 (commencing with Section 44220), or pursuant to Section
27 9250.11 of the Vehicle Code, as matching funds to fund a project
28 with stationary or portable engines, locomotives, or marine vessels.~~

29 ~~(k)~~

30 (j) Any funds reserved for a district *by the state board* pursuant
31 to this section are available *for disbursement* to the district for a
32 period of not more than two years from the time of reservation.
33 Funds ~~not expended~~ *liquidated by a district* by June 30 of the
34 ~~second~~ *fourth* calendar year following the date of the reservation
35 shall ~~revert back to the state board as of that June 30, and shall be~~
36 ~~deposited in the fund for use by the program. The funds may then~~
37 ~~be redirected based on applications to the fund. Regardless of any~~
38 ~~reversion of funds back to the state board, the district may continue~~
39 ~~to request other reservations of funds for local administration. be~~
40 *returned to the state board within 90 days for future allocation*

1 *pursuant to this chapter.* Each reservation of funds shall be
2 accounted for separately, and unused funds from each application
3 shall revert back to the state board *for use pursuant to this chapter*
4 as specified in this subdivision.

5 ~~(j)~~

6 (k) The state board shall specify a date each year when district
7 applications are due. If the eligible applications received in any
8 year oversubscribe the available funds, the state board shall reserve
9 funds on an allocation basis, pursuant to Section 44299.2. The
10 state board may accept a district application after the due date for
11 a period of months specified by the state board. Funds may be
12 reserved in response to those applications, in accordance with this
13 chapter, out of funds remaining after the original reservation of
14 funds for the year.

15 ~~(m)~~

16 (l) Guidelines for a district application shall require information
17 from an applicant district to the extent necessary to meet the
18 requirements of this chapter, but shall otherwise minimize the
19 information required of a district.

20 ~~(n)~~

21 (m) A district application shall be reviewed by the state board
22 immediately upon receipt. If the state board determines that an
23 application is incomplete, the applicant shall be notified within 10
24 working days with an explanation of what is missing from the
25 application. A completed application fulfilling the criteria shall be
26 approved as soon as practicable, but not later than 60 working days
27 after receipt.

28 ~~(o)~~

29 (n) The commission, in consultation with the districts, shall
30 establish project approval criteria and guidelines for infrastructure
31 projects consistent with Section 44284 as soon as practicable, but
32 not later than February 15, 2000. The commission shall make draft
33 criteria and guidelines available to the public 45 days before final
34 adoption, and shall hold at least one public meeting to consider
35 public comments before final adoption.

36 ~~(p)~~

37 (o) The commission, in consultation with the participating
38 districts, may propose revisions to the criteria and guidelines
39 established pursuant to subdivision (o) as necessary to improve
40 the ability of the program to achieve its goals. A revision may be

1 proposed at any time, or may be proposed in response to a finding
2 made in the annual report on the program published by the state
3 board pursuant to Section 44295. A proposed revision shall be
4 made available to the public 45 days before final adoption of the
5 revision and the commission shall hold at least one public meeting
6 to consider public comments before final adoption of the revision.

7 ~~(q)~~

8 (p) Unclaimed funds will be allocated by the state board in
9 accordance with Section 44299.2.

10 ~~(r)~~

11 (q) This section shall remain in effect only until January 1, 2024,
12 and as of that date is repealed, unless a later enacted statute, that
13 is enacted before January 1, 2024, deletes or extends that date.

14 *SEC. 12. Section 44287.1 of the Health and Safety Code is*
15 *amended to read:*

16 44287.1. (a) The state board shall, at its first opportunity,
17 revise the grant criteria and guidelines adopted pursuant to Section
18 44287 to incorporate projects in which an applicant turns in
19 nonroad internal combustion technology and equipment that the
20 applicant owns and that still has some useful life, coupled with the
21 purchase of new nonroad zero-emission technology and equipment
22 that is in a similar category or that can perform the same work.

23 (b) When it evaluates the benefits of a project described in
24 subdivision (a), the state board shall count both of the following
25 emission reduction streams, provided that they are real, enforceable,
26 quantifiable, and surplus emission reductions:

27 (1) The displacement of the emissions from the older nonroad
28 internal combustion technology and equipment for its remaining
29 life with the new nonroad zero-emission technology and equipment.

30 (2) After the time period specified in paragraph (1), the
31 displacement of emissions from new nonroad internal combustion
32 technology and equipment meeting the emission standards in place
33 at time of purchase, with the new nonroad zero-emission
34 technology and equipment over its remaining life.

35 (c) A project described in subdivision (a) shall meet the
36 cost-effectiveness criteria in Section 44283 and all other criteria
37 of the program, including the requirement that the emission
38 reductions be real, enforceable, quantifiable, and surplus.

39 (d) The incremental cost of a project described in subdivision
40 (a) may include, at the discretion of the applicant, some or all of

1 the reasonable salvage value of the nonroad internal combustion
2 technology and equipment turned in, as determined by the state
3 board, and some or all of any additional costs incurred for
4 necessary recharging equipment or infrastructure as determined
5 by the state board. However, an applicant that elects to include
6 these costs shall be required to meet the cost-effectiveness criteria
7 in Section 44283.

8 *SEC. 13. Section 44287.2 of the Health and Safety Code is*
9 *amended to read:*

10 44287.2. (a) By July 1, ~~2011~~, 2017, the state board shall revise
11 project grant criteria and guidelines pursuant to Section 44287;
12 ~~for a project that reduces greenhouse gas emissions~~, to allow funds
13 from ~~all of the following programs or federal, state, and local~~
14 ~~programs or other public~~ funding sources to be used for a project
15 also funded under this chapter without those additional public
16 funds being factored into the criteria emission reduction
17 ~~cost-effectiveness calculations; calculations, if the projects are~~
18 ~~eligible under those programs and meet all criteria associated~~
19 ~~with those funding sources. Those other projects include, but are~~
20 ~~not limited to, any of the following:~~

21 (1) Federal funding from programs designed to reduce
22 greenhouse gas emissions.

23 ~~(2) Alternative and Renewable Fuel and Vehicle Technology~~
24 ~~Program (Article 2 (commencing with Section 44272) of Chapter~~
25 ~~8.9).~~

26 (2) *State and local funding from programs designed to reduce*
27 *greenhouse gas emissions, including the Greenhouse Gas*
28 *Reduction Fund, created pursuant to Section 16428.8 of the*
29 *Government Code, and the Alternative and Renewable Fuel and*
30 *Vehicle Technology Program (Article 2 (commencing with Section*
31 *44272) of Chapter 8.9).*

32 (3) *Funding from programs designed to support energy diversity.*

33 (4) *Funding from programs that are intended to provide covered*
34 *emissions reductions but do not require those reductions to be*
35 *able to be credited to the state implementation plan.*

36 (b) Nothing in this section authorizes the expenditure of funds
37 for a project that does not meet all of the requirements of this
38 chapter, including requirements that require cost sharing or *the*
39 ~~matching of funds. Subdivision (a) does not apply if the additional~~
40 ~~expenditure would not provide an incremental greenhouse gas~~

1 ~~emission reduction benefit greater than what would otherwise be~~
2 ~~achieved by the program. The state board shall not exclude funds~~
3 ~~from the cost-effectiveness calculation pursuant to subdivision (a),~~
4 ~~if excluding those funds would reduce the emission reduction~~
5 ~~benefits expected to be achieved from this chapter, federal~~
6 ~~greenhouse gas emission reduction programs, or the Alternative~~
7 ~~and Renewable Fuel and Vehicle Technology Program. The sum~~
8 ~~of the total grants shall not exceed the project cost. The covered~~
9 ~~emissions reductions paid for pursuant to this chapter shall not~~
10 ~~be claimed by the other funding sources.~~

11 *(c) Subdivision (a) shall not apply to funds used pursuant to*
12 *paragraph (2) of subdivision (d) of Section 41081 or subdivision*
13 *(b) of Section 44229.*

14 *SEC. 14. Section 44288 of the Health and Safety Code is*
15 *amended to read:*

16 44288. (a) An application for a project grant shall be reviewed
17 by the administering district immediately upon receipt. If the
18 administering district determines that an application is incomplete,
19 the applicant shall be notified within ~~five~~ 30 working days with
20 an explanation of what is missing from the application. The date
21 and time of receipt of each application determined to be complete
22 shall be recorded and the completed application shall be evaluated
23 with respect to the appropriate project selection criteria. A district
24 shall make every effort to process an application and grant an
25 award rapidly and to coordinate project approval with any purchase
26 or installation timing constraint on an applicant. Notwithstanding
27 any other provision of this chapter, the administering district may
28 determine that an application is not in good faith, not credible, or
29 not in compliance with this chapter and its objectives.

30 (b) A participating district may request assistance from the state
31 board on an ~~as-needed~~ *as-needed* basis to clarify project evaluation
32 protocols or to obtain information necessary to properly evaluate
33 an application.

34 (c) An application for a grant for an infrastructure project shall
35 be reviewed by the commission immediately upon receipt. If the
36 commission determines that an application is incomplete, the
37 applicant shall be notified within five working days with an
38 explanation of what is missing from the application. The date and
39 time of receipt of each application determined to be complete shall
40 be recorded and the completed application shall be evaluated with

1 respect to the appropriate project selection criteria. A complete
2 grant application fulfilling the project selection criteria shall be
3 approved as soon as practicable, but not later than 60 working days
4 after receipt. Notwithstanding any other provision of this chapter,
5 the commission may determine that an application is not in good
6 faith, not credible, or not in compliance with this chapter and its
7 objectives. The commission shall expedite the processing of an
8 application and shall grant an award as rapidly as possible.

9 (d) Funds shall be awarded in conjunction with the execution
10 of a contract that obligates the state board or a participating district
11 to make the grant and obligates the grantee to take the actions
12 described in the grant application. A contract shall incorporate the
13 recapturing provisions contained in subdivision (c) of Section
14 44291.

15 *SEC. 15. Section 44291 of the Health and Safety Code is*
16 *amended to read:*

17 44291. (a) The state board shall assist districts with developing
18 procedures to monitor whether the emission reductions projected
19 in successful grant applications are actually achieved. Monitoring
20 procedures may include project audits, and may also include
21 requirements, as part of the contract between the state board or
22 districts and the grant recipients, that each grant recipient provide
23 information about the project on an annual basis. Information
24 required from grant recipients should be minimized and the format
25 for reporting the information should be made simple and
26 convenient.

27 (b) As soon as practicable, ~~the commission,~~ *state board,* in
28 consultation with the districts, shall publish procedures to monitor
29 and audit infrastructure projects. These procedures shall ensure
30 that the amount of qualifying fuel dispensed annually is greater
31 than or equal to the amount upon which the grant award is based
32 and that any project qualifying for funding on the basis of public
33 accessibility or limited public accessibility is, in fact, providing
34 that accessibility.

35 (c) The monitoring and auditing procedures shall be sufficient
36 to allow emission reductions generated to be fully credited to air
37 quality plans. The monitoring procedures shall contain provisions
38 for recapturing grant awards in proportion to any loss of emission
39 reductions or underachievement in dispensing qualifying fuel
40 compared with the reductions and fuel dispensing projected in the

1 grant application. ~~Funds recaptured shall be deposited in the~~
 2 ~~accounts from which the funds were originally expended. From~~
 3 ~~time to time, monitoring~~ *Monitoring* and auditing procedures shall
 4 be revised as appropriate to enhance program effectiveness.

5 (d) The state board shall monitor district programs to ensure
 6 that participating districts conduct their programs consistent with
 7 the criteria and guidelines established by the state board and the
 8 commission pursuant to this chapter. The monitoring procedures
 9 shall contain provisions for ~~recapture~~ *return* of funds not yet
 10 awarded to approved projects if a district fails to show that they
 11 are implementing a program consistent with the approved program.
 12 If the state board determines, pursuant to this subdivision, that
 13 moneys from the fund allocated to a district should be ~~recaptured,~~
 14 *returned*, the state board shall hold at least one public meeting to
 15 consider public comments prior to ~~recapturing~~ *requiring the return*
 16 *of the allocated funds*. The state board shall make every effort to
 17 assist districts to implement programs in an approved manner and
 18 shall only ~~recapture~~ *require the return of* allocated funds if these
 19 efforts fail to address problems adequately. ~~Recaptured~~ *Returned*
 20 ~~funds shall be deposited in the Covered Vehicle Account.~~ *fund.*
 21 The state board shall not ~~recapture~~ *require the return of* funds
 22 already awarded to approved projects.

23 (e) *Program funds recaptured as a result of a settlement*
 24 *agreement executed by the state board shall be returned to the*
 25 *district that provided the funds to the grant recipient. A penalty*
 26 *resulting from a settlement agreement executed by the state board*
 27 *with a grant recipient or from a civil action brought by the Attorney*
 28 *General shall be deposited in the fund.*

29 *SEC. 16. Section 44299.1 of the Health and Safety Code, as*
 30 *amended by Section 28 of Chapter 401 of the Statutes of 2013, is*
 31 *amended to read:*

32 44299.1. (a) To ensure that emission reductions are obtained
 33 as needed from pollution sources, any moneys deposited in the
 34 fund for use by the program or appropriated to the program shall
 35 be segregated and administered as follows:

36 (1) Not more than ~~2~~ 2.5 percent of the moneys in the fund for
 37 use by the program shall be allocated to program support and
 38 outreach costs incurred by the state board and the commission
 39 directly associated with implementing the program pursuant to
 40 this chapter. These funds shall be allocated to the state board and

1 the commission in proportion to total program funds administered
2 by the state board and the commission.

3 (2) Not more than ~~2~~ 2.5 percent of the moneys in the fund for
4 use by the program shall be allocated to direct program outreach
5 activities. The state board may use these funds for program
6 outreach contracts or may allocate outreach funds to participating
7 districts in proportion to each district's allocation from the program
8 moneys in the fund. The state board shall report on the use of
9 outreach funds in their reports to the Legislature pursuant to Section
10 44295.

11 (3) The balance shall be deposited in the fund to be expended
12 to offset added costs of new very low or zero-emission vehicle
13 technologies, and emission reducing repowers, retrofits, and add-on
14 equipment for covered vehicles and engines, and other projects
15 specified in Section 44281.

16 (b) Moneys in the fund shall be allocated to a district that
17 submits an eligible application to the state board pursuant to
18 Section 44287. The state board shall determine the maximum
19 amount of annual funding from the fund for use by the program
20 that each district may receive. This determination shall be based
21 on the population in each district as well as the relative importance
22 of obtaining covered emission reductions in each district,
23 specifically through the program.

24 (c) Not more than ~~5~~ 6.25 percent of the moneys allocated
25 pursuant to this chapter to a district with a population of one million
26 or more may be used by the district for indirect costs of
27 implementation of the program, including outreach costs that are
28 subject to the limitation in paragraph (2) of subdivision (a).

29 (d) Not more than ~~10~~ 12.5 percent of the moneys allocated
30 pursuant to this chapter to a district with a population of less than
31 one million may be used by the district for indirect costs of
32 implementation of the program, including outreach costs that are
33 subject to the limitation in paragraph (2) of subdivision (a).

34 ~~(e) This section shall remain in effect only until January 1, 2024,~~
35 ~~and as of that date is repealed, unless a later enacted statute, that~~
36 ~~is enacted before January 1, 2024, deletes or extends that date.~~

37 *SEC. 17. Section 44299.1 of the Health and Safety Code, as*
38 *amended by Section 29 of Chapter 401 of the Statutes of 2013, is*
39 *repealed.*

1 ~~44299.1. (a) To ensure that emission reductions are obtained~~
2 ~~as needed from pollution sources, any moneys deposited in the~~
3 ~~fund for use by the program or appropriated to the program shall~~
4 ~~be segregated and administered as follows:~~

5 ~~(1) Ten percent, not to exceed two million dollars (\$2,000,000),~~
6 ~~shall be allocated to the infrastructure demonstration project to be~~
7 ~~used pursuant to Section 44284.~~

8 ~~(2) Ten percent shall be deposited in the fund for use by the~~
9 ~~program to be used to support research, development,~~
10 ~~demonstration, and commercialization of advanced low-emission~~
11 ~~technologies for covered sources that show promise of contributing~~
12 ~~to the goals of the program.~~

13 ~~(3) Not more than 2 percent of the moneys in the fund for use~~
14 ~~by the program shall be allocated to program support and outreach~~
15 ~~costs incurred by the state board and the commission directly~~
16 ~~associated with implementing the program pursuant to this chapter.~~
17 ~~These funds shall be allocated to the state board and the~~
18 ~~commission in proportion to total program funds administered by~~
19 ~~the state board and the commission.~~

20 ~~(4) Not more than 2 percent of the moneys in the fund for use~~
21 ~~by the program shall be allocated to direct program outreach~~
22 ~~activities. The state board may use these funds for program~~
23 ~~outreach contracts or may allocate outreach funds to participating~~
24 ~~districts in proportion to each district's allocation from the fund~~
25 ~~for use by the program. The state board shall report on the use of~~
26 ~~outreach funds in their reports to the Legislature pursuant to Section~~
27 ~~44295.~~

28 ~~(5) The balance shall be deposited in the fund for use by the~~
29 ~~program to be expended to offset added costs of new very low or~~
30 ~~zero-emission vehicle technologies, and emission-reducing~~
31 ~~repowers, retrofits, and add-on equipment for covered vehicles~~
32 ~~and engines.~~

33 ~~(b) Moneys in the fund for use by the program shall be allocated~~
34 ~~to a district that submits an eligible application to the state board~~
35 ~~pursuant to Section 44287. The state board shall determine the~~
36 ~~maximum amount of annual funding from the fund for use by the~~
37 ~~program that each district may receive. This determination shall~~
38 ~~be based on the population in each district as well as the relative~~
39 ~~importance of obtaining NO_x reductions in each district,~~
40 ~~specifically through the program.~~

1 ~~(e) This section shall become operative on January 1, 2024.~~

2 *SEC. 18. Section 44299.2 of the Health and Safety Code is*
3 *amended to read:*

4 44299.2. Funds shall be allocated to districts, and shall be
5 subject to administrative terms and conditions as follows:

6 (a) Available funds shall be distributed to districts taking into
7 consideration the population of the area, the severity of the air
8 quality problems experienced by the population, and the historical
9 allocation of the program funds, except that the south coast district
10 shall be allocated a percentage of the total funds available to
11 districts that is proportional to the percentage of the total state
12 population residing within the jurisdictional boundaries of that
13 district. For the purposes of this subdivision, population shall be
14 determined by the state board based on the most recent data
15 provided by the Department of Finance. The allocation to the south
16 coast district shall be subtracted from the total funds available to
17 districts. Each district, except the south coast district, shall be
18 awarded a minimum allocation of two hundred thousand dollars
19 (\$200,000), and the remainder, which shall be known as the
20 “allocation amount,” shall be allocated to all districts as follows:

21 (1) The state board shall distribute 35 percent of the allocation
22 amount to the districts in proportion to the percentage of the total
23 residual state population that resides within each district’s
24 boundaries. For purposes of this paragraph, “total residual state
25 population” means the total state population, less the total
26 population that resides within the south coast district.

27 (2) The state board shall distribute 35 percent of the allocation
28 amount to the districts in proportion to the severity of the air quality
29 problems to which each district’s population is exposed. The
30 severity of the exposure shall be calculated as follows:

31 (A) Each district shall be awarded severity points based on the
32 district’s attainment designation and classification, as most recently
33 promulgated by the federal Environmental Protection Agency for
34 the National Ambient Air Quality Standard for ozone averaged
35 over eight hours, as follows:

36 (i) A district that is designated attainment for the federal
37 eight-hour ozone standard shall be awarded one point.

38 (ii) A district that is designated nonattainment for the federal
39 eight-hour ozone standard shall be awarded severity points based
40 on classification. Two points shall be awarded for transitional,

1 basic, or marginal classifications, three points for moderate
2 classification, four points for serious classification, five points for
3 severe classification, six points for severe-17 classification, and
4 seven points for extreme classification.

5 (B) Each district shall be awarded severity points based on the
6 annual diesel particulate emissions in the air basin, as determined
7 by the state board. One point shall be awarded to the district, in
8 increments, for each 1,000 tons of diesel particulate emissions. In
9 making this determination, 0 to 999 tons shall be awarded no
10 points, 1,000 to 1,999 tons shall be awarded one point, 2,000 to
11 2,999 tons shall be awarded two points, and so forth. If a district
12 encompasses more than one air basin, the air basin with the greatest
13 diesel particulate emissions shall be used to determine the points
14 awarded to the district. The San Diego County Air Pollution
15 Control District and the Imperial County Air Pollution Control
16 District shall be awarded one additional point each to account for
17 annual diesel particulate emissions transported from Mexico.

18 (C) The points awarded under subparagraphs (A) and (B), shall
19 be added together for each district, and the total shall be multiplied
20 by the population residing within the district boundaries, to yield
21 the local air quality exposure index.

22 (D) The local air quality exposure index for each district shall
23 be summed together to yield a total state exposure index. Funds
24 shall be allocated under this paragraph to each district in proportion
25 to its local air quality exposure index divided by the total state
26 exposure index.

27 (3) The state board shall distribute 30 percent of the allocation
28 amount to the districts in proportion to the allocation of funds from
29 the program moneys in the fund, as follows:

30 (A) Because each district is awarded a minimum allocation
31 pursuant to subdivision (a), there shall be no additional minimum
32 allocation from the program historical allocation funds. The total
33 amount allocated in this way shall be subtracted from total funding
34 previously awarded to the district under the program, and the
35 remainder, which shall be known as directed funds, shall be
36 allocated pursuant to subparagraph (B).

37 (B) Each district with a population that is greater than or equal
38 to 1 percent of the state's population shall receive an additional
39 allocation based on the population of the district and the district's
40 relative share of emission reduction commitments in the state

1 implementation plan to attain the National Ambient Air Quality
2 Standard for ozone averaged over one hour. This additional
3 allocation shall be calculated as a percentage share of the directed
4 funds for each district, derived using a ratio of each district's share
5 amount to the base amount, which shall be calculated as follows:

6 (i) The base amount shall be the total program funds allocated
7 by the state board to the districts in the 2002–03 fiscal year, less
8 the total of the funds allocated through the minimum allocation to
9 each district in the 2002–03 fiscal year.

10 (ii) The share amount shall be the allocation that each district
11 received in the 2002–03 fiscal year, not including the minimum
12 allocation. There shall be one share amount for each district.

13 (iii) The percentage share shall be calculated for each district
14 by dividing the district's share amount by the base amount, and
15 multiplying the result by the total directed funds available under
16 this subparagraph.

17 (b) Funds shall be distributed as expeditiously as reasonably
18 practicable, and a report of the distribution shall be made available
19 to the public.

20 ~~(c) All funds allocated pursuant to this section shall be expended
21 as provided in the guidelines adopted pursuant to Section 44287
22 within two years from the date of allocation. Funds not expended
23 within the two years shall be returned to the program moneys in
24 the fund within 60 days and shall be subject to further allocation
25 as follows:~~

26 ~~(1) Within 30 days of the deadline to return funds, the state
27 board shall notify the districts of the total amount of returned funds
28 available for reallocation, and shall list those districts that request
29 supplemental funds from the reallocation and that are able to
30 expend those funds within one year.~~

31 ~~(2) Within 90 days of the deadline to return funds, the state
32 board shall allocate the returned funds to the districts listed
33 pursuant to paragraph (1).~~

34 ~~(3) All supplemental funds distributed under this subdivision
35 shall be expended consistent with the program within one year of
36 the date of supplemental allocation. Funds not expended within
37 one year shall be returned to the program moneys in the fund and
38 shall be distributed at the discretion of the state board to districts,
39 taking into consideration each district's ability to expeditiously
40 utilize the remaining funds consistent with the program.~~

1 ~~(d) This section shall remain in effect only until January 1, 2024,~~
2 ~~and as of that date is repealed, unless a later enacted statute, that~~
3 ~~is enacted before January 1, 2024, deletes or extends that date.~~

4 *(c) All funds allocated pursuant to this section shall be*
5 *liquidated as provided for in the guidelines adopted pursuant to*
6 *Section 44287 by June 30 four years following the year of*
7 *allocation. Funds not liquidated within the four years shall be*
8 *returned to the state board within 90 days for future allocation*
9 *pursuant to this chapter.*

10 ~~SECTION 1. It is the intent of the Legislature to enact~~
11 ~~legislation to amend the Carl Moyer Memorial Air Quality~~
12 ~~Standards Attainment Program (Chapter 9 (commencing with~~
13 ~~Section 44275) of Part 5 of Division 26 of the Health and Safety~~
14 ~~Code) to achieve even greater air quality benefits.~~

ATTACHMENT 2E

SB 350 (De León and Leno)

Clean Energy and Pollution Reduction Act of 2015

Summary: This bill would implement new “50-50-50” benchmark standards by raising California’s Renewable Portfolio Standard (RPS) from 33% to 50%, striving for a 50% reduction in petroleum use, and doubling energy efficiency in buildings by the year 2030.

Background:

Renewable Portfolio Standard - Existing law establishes the California RPS, which calls for the amount of electricity generated per year from renewable energy resources to be increased to at least 33% of the total electricity sold to retail customers in California by December 31, 2020. The bill’s authors argue that renewable energy is as cost-effective as fossil fuels and produces much less pollution. According to the International Renewable Energy Agency, renewable power generation costs in 2014 were either equal to or less than the cost of coal, oil, and gas-fired power plants.

In 2011, Governor Jerry Brown signed legislation to increase the RPS to 33% by the year 2020. The bill’s authors claim that currently, most energy utilities have bought or have built enough energy resources to meet the 33% RPS before the target year. Also, according to numerous studies, California’s RPS standard has created hundreds of thousands of new jobs, millions of new investment and tax dollars, and significant clean air and climate benefits.

Reduction in Petroleum Use - The authors explain that according to the California Air Resources Board (CARB), production, refining, and the use of petroleum accounts for nearly half of greenhouse gas (GHG) emissions, 80% of smog-forming pollution, and over 95% of cancer-causing diesel particulate matter. CARB also notes that oil dependence costs the state \$33-55 billion annually, and that reducing petroleum use and improving vehicle efficiency will cut costs and improve California’s economic productivity and competitiveness.

In the effort to improve air quality over the last two decades, California has made cars significantly more efficient and less consuming of petroleum fuels. The bill’s authors argue that using less petroleum in transportation fuels saves money, creates jobs, and reduces pollution. For example, over 100,000 miles, a 40 mpg car saves \$16,668 in fuel costs compared to a 15 mpg car over 100,000 miles (assuming \$4/gallon fuel costs).

Energy Efficiency in Buildings - The authors point out that energy efficient buildings save money and reduce pollution from electricity. According to the California Energy Commission (Energy Commission), efficiency standards return an average of \$6,200 in energy savings per household over 30 years on heating, cooling, and lighting bills. These

same standards save 200 million gallons of water per year and avoid 170,500 tons of GHG emissions per year. Since 1978, the state’s standards have saved Californians \$66 billion in electricity and natural gas savings.

State energy agencies allocate over \$1.5 billion per year on energy efficiency programs. Roughly \$1 billion is spent by the California Public Utilities Commission (PUC) and utilities via utility-sponsored programs such as rebates for high-efficiency appliances, heating and A/C systems, and insulation. In addition, Proposition 39—The California Clean Energy Jobs Act—has generated approximately \$500 million annually to assist schools in switching to clean energy and reducing energy use, which creates jobs and saves money that can be reinvested into classrooms. Under current law, although California has energy efficiency standards for new buildings and appliances, implementation challenges include the lack of enforcement mechanisms and accountability.

Status Update: 4/7/15 - The Senate Energy, Utilities and Communications Committee passed the bill out of committee without amendment on an 8-3 vote.

Specific Provisions: Specifically, this bill would:

1. Express the intent of the Legislature, with respect to the RPS program, that the amount of electricity generated per year from renewable energy resources be increased to at least 50% by December 31, 2030;
2. Require standards created by CARB related to emissions from motor vehicles to be developed in furtherance of achieving a reduction in petroleum use in motor vehicles by 50% by January 1, 2030;
3. State the policy of the state is to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution, in furtherance of reducing petroleum use in the transportation sector by 50% by January 1, 2030; and
4. Require the Energy Commission, by January 1, 2017, and at least once every three years thereafter, to adopt an update to the program in furtherance of achieving a doubling of energy efficiency in buildings by January 1, 2030.

Impacts on SCAQMD’s mission, operations or initiatives: The authors state that the purpose of this legislation is to create jobs, grow the state’s economy, and to improve public health by setting new standards for California’s RPS, reducing petroleum use, and increasing energy efficiency in existing buildings. The authors also state that SB 350 makes these standards permanent, trackable, and enforceable by enacting them into law. The authors argue that each of these new standards would be added to existing clean air, clean energy, and climate related statutes that have been implemented for years. For example, under current law, CARB must reduce pollution to achieve state and federal ambient air standards. Current law (Health and Safety Code Section 42013) requires CARB to adopt standards for vehicles and fuels to achieve clean air. This measure ensures that those actions will achieve a 50% reduction in petroleum by 2030.

This bill is in line with SCAQMD’s priorities regarding reducing GHG, criteria pollutant and toxic emissions within the South Coast region. Through this bill’s multi-faceted efforts, there will be co-benefit reductions in criteria and toxic emissions that will help protect the health of South Coast residents and meet state and federal ambient air quality standards. The bill is also consistent with SCAQMD’s priority to facilitate the development and deployment of clean transportation technology and to promote the usage of cleaner alternative fuels.

Previous Legislative Committee Action on March 13, 2015 established a position to: Actively Monitor SB 350 (De Leon).

ATTACHMENT 2F

SENATE BILL

No. 350

**Introduced by Senators De León and Leno
(Coauthors: Senators Hancock and Monning)**

February 24, 2015

An act to amend Section 43013 of the Health and Safety Code, to amend Sections 25000.5 and 25943 of the Public Resources Code, and to amend Sections 399.11, 399.12, 399.13, 399.15, 399.16, 399.18, 399.21, and 399.30 of, to add Section 454.51 to, and to add Article 17 (commencing with Section 400) to Chapter 2.3 of Part 1 of Division 1 of, the Public Utilities Code, relating to energy.

LEGISLATIVE COUNSEL'S DIGEST

SB 350, as introduced, De León. Clean Energy and Pollution Reduction Act of 2015.

(1) Under existing law, the Public Utilities Commission (PUC) has regulatory authority over public utilities, including electrical corporations, as defined, while local publicly owned electric utilities, as defined, are under the direction of their governing boards.

Existing law establishes the California Renewables Portfolio Standard (RPS) program, which expresses the intent of the Legislature that the amount of electricity generated per year from eligible renewable energy resources be increased to an amount that equals at least 33% of the total electricity sold to retail customers in California per year by December 31, 2020. Existing law requires the PUC, by January 1, 2012, to establish the quantity of electricity products from eligible renewable energy resources to be procured by each retail seller for specified compliance periods, sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves 25% of retail sales by December 31, 2016, and 33% of retail sales by December 31, 2020, and that retail sellers procure not less than 33% of retail sales in all

subsequent years. Existing law includes as an eligible renewable energy resources a specified facility engaged in the combustion of municipal solid waste.

Existing law makes the requirements of the RPS program applicable to local publicly owned electric utilities, except that the utility's governing board is responsible for implementation of those requirements, instead of the PUC, and certain enforcement authority with respect to local publicly owned electric utilities is given to the State Energy Resources Conservation and Development Commission (Energy Commission) and State Air Resources Board, instead of the PUC.

This bill would additionally express the intent of the Legislature for the purposes of the RPS program that the amount of electricity generated per year from eligible renewable energy resources be increased to an amount equal to at least 50% by December 31, 2030, and would require the PUC, by January 1, 2017, to establish the quantity of electricity products from eligible renewable energy resources be procured by each retail seller for specified compliance periods sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves 50% of retail sales by December 31, 2030. The bill would require the governing boards of local publicly owned electric utilities to ensure that specified quantities of electricity products from eligible renewable energy resources to be procured for specified compliance periods to ensure that the procurement of electricity products from eligible renewable energy resources achieve 50% of retail sales by December 31, 2030. The bill would exclude all facilities engaged in the combustion of municipal solid waste from being eligible renewable energy resources. The bill would require community choice aggregators and electric service providers to prepare and submit renewable energy procurement plans. The bill would revise other aspects of the RPS program, including, among other things, the enforcement provisions and would require penalties collected for noncompliance to be deposited in the Electric Program Investment Charge Fund. The bill would require the PUC to direct electrical corporations to include in their proposed procurement plans a strategy for procuring a diverse portfolio of resources that provide a reliable electricity supply. The bill would require the PUC and the Energy Commission to take certain actions in furtherance of meeting the state's clean energy and pollution reduction objectives.

(2) Under existing law, a violation of the RPS program is a crime.

Because the provisions of this bill would expand the RPS program, a violation of these provisions would impose a state-mandated local program by expanding the definition of a crime.

(3) By placing additional requirements upon local publicly owned electric utilities, this bill would impose a state-mandated local program.

(4) Existing law requires the State Air Resources Board to adopt and implement various standards related to emissions from motor vehicles.

This bill would require those standards to be in furtherance of achieving a reduction in petroleum use in motor vehicles by 50% by January 1, 2030.

(5) Existing law states the policy of the state to exploit all practicable and cost-effective conservation and improvements in the efficiency of energy use and distribution, and to achieve energy security, diversity of supply sources, and competitiveness of transportation energy markets based on the least environmental and economic costs.

This bill would additionally state the policy of the state to exploit those conservation and improvements in furtherance of reducing petroleum use in the transportation sector by 50% by January 1, 2030.

(6) Existing law requires the Energy Commission to establish a regulatory proceeding to develop and implement a comprehensive program to achieve greater energy savings in California's existing residential and nonresidential building stock and to periodically update criteria for the program.

This bill would require the Energy Commission, by January 1, 2017, and at least once every 3 years thereafter, to adopt an update to the program in furtherance of achieving a doubling of energy efficiency in buildings by January 1, 2030.

(7) The California Constitution requires the state to reimburse local agencies and school districts for certain costs mandated by the state. Statutory provisions establish procedures for making that reimbursement.

This bill would provide that no reimbursement is required by this act for a specified reasons.

Vote: majority. Appropriation: no. Fiscal committee: yes.
State-mandated local program: yes.

The people of the State of California do enact as follows:

1 SECTION 1. This act shall be known and may be cited as the
2 Clean Energy and Pollution Reduction Act of 2015.

1 SEC. 2. (a) The Legislature finds and declares that the
2 Governor has called for a new set of objectives in clean energy,
3 clean air, and pollution reduction for 2030 and beyond. Those
4 objectives consist of the following:

5 (1) To increase from 33 percent to 50 percent, the procurement
6 of our electricity from renewable sources.

7 (2) To reduce today's petroleum use in cars and trucks by up
8 to 50 percent.

9 (3) To double the efficiency of existing buildings.

10 (b) It is the intent of the Legislature in enacting this act to codify
11 the targets described under subdivision (a) to ensure they are
12 permanent, enforceable, and quantifiable.

13 SEC. 3. Section 43013 of the Health and Safety Code is
14 amended to read:

15 43013. (a) The state board shall adopt and implement motor
16 vehicle emission standards, in-use performance standards, and
17 motor vehicle fuel specifications for the control of air contaminants
18 and sources of air pollution which the state board has found to be
19 necessary, cost effective, and technologically feasible, to carry out
20 the purposes of this ~~division~~, *division and in furtherance of*
21 *achieving a reduction in petroleum use in motor vehicles by 50*
22 *percent by January 1, 2030*, unless preempted by federal law.

23 (b) The state board shall, consistent with subdivision (a), adopt
24 standards and regulations for light-duty and heavy-duty motor
25 vehicles, medium-duty motor vehicles, as determined and specified
26 by the state board, portable fuel containers and spouts, and off-road
27 or nonvehicle engine categories, including, but not limited to,
28 off-highway motorcycles, off-highway vehicles, construction
29 equipment, farm equipment, utility engines, locomotives, and, to
30 the extent permitted by federal law, marine vessels.

31 (c) Prior to adopting standards and regulations for farm
32 equipment, the state board shall hold a public hearing and find and
33 determine that the standards and regulations are necessary, cost
34 effective, and technologically feasible. The state board shall also
35 consider the technological effects of emission control standards
36 on the cost, fuel consumption, and performance characteristics of
37 mobile farm equipment.

38 (d) Notwithstanding subdivision (b), the state board shall not
39 adopt any standard or regulation affecting locomotives until the
40 final study required under Section 5 of Chapter 1326 of the Statutes

1 of 1987 has been completed and submitted to the Governor and
2 Legislature.

3 (e) Prior to adopting or amending any standard or regulation
4 relating to motor vehicle fuel specifications pursuant to this section,
5 the state board shall, after consultation with public or private
6 entities that would be significantly impacted as described in
7 paragraph (2) of subdivision (f), do both of the following:

8 (1) Determine the cost-effectiveness of the adoption or
9 amendment of the standard or regulation. The cost-effectiveness
10 shall be compared on an incremental basis with other mobile source
11 control methods and options.

12 (2) Based on a preponderance of scientific and engineering data
13 in the record, determine the technological feasibility of the adoption
14 or amendment of the standard or regulation. That determination
15 shall include, but is not limited to, the availability, effectiveness,
16 reliability, and safety expected of the proposed technology in an
17 application that is representative of the proposed use.

18 (f) Prior to adopting or amending any motor vehicle fuel
19 specification pursuant to this section, the state board shall do both
20 of the following:

21 (1) To the extent feasible, quantitatively document the
22 significant impacts of the proposed standard or specification on
23 affected segments of the state's economy. The economic analysis
24 shall include, but is not limited to, the significant impacts of any
25 change on motor vehicle fuel efficiency, the existing motor vehicle
26 fuel distribution system, the competitive position of the affected
27 segment relative to border states, and the cost to consumers.

28 (2) Consult with public or private entities that would be
29 significantly impacted to identify those investigative or preventive
30 actions that may be necessary to ensure consumer acceptance,
31 product availability, acceptable performance, and equipment
32 reliability. The significantly impacted parties shall include, but are
33 not limited to, fuel manufacturers, fuel distributors, independent
34 marketers, vehicle manufacturers, and fuel users.

35 (g) To the extent that there is any conflict between the
36 information required to be prepared by the state board pursuant to
37 subdivision (f) and information required to be prepared by the state
38 board pursuant to Chapter 3.5 (commencing with Section 11340)
39 of Part 1 of Division 3 of Title 2 of the Government Code, the
40 requirements established under subdivision (f) shall prevail.

1 (h) It is the intent of the Legislature that the state board act as
2 expeditiously as is feasible to reduce nitrogen oxide emissions
3 from diesel vehicles, marine vessels, and other categories of
4 vehicular and mobile sources which significantly contribute to air
5 pollution problems.

6 SEC. 4. Section 25000.5 of the Public Resources Code is
7 amended to read:

8 25000.5. (a) The Legislature finds and declares that
9 overdependence on the production, marketing, and consumption
10 of petroleum based fuels as an energy resource in the transportation
11 sector is a threat to the energy security of the state due to
12 continuing market and supply uncertainties. In addition, petroleum
13 use as an energy resource contributes substantially to the following
14 public health and environmental problems: air pollution, acid rain,
15 global warming, and the degradation of California's marine
16 environment and fisheries.

17 (b) Therefore, it is the policy of this state to fully evaluate the
18 economic and environmental costs of petroleum use, and the
19 economic and environmental costs of other transportation ~~fuels,~~
20 *fuels and options*, including the costs and values of environmental
21 impacts, and to establish a state transportation energy policy that
22 results in the least environmental and economic cost to the state.
23 In pursuing the "least environmental and economic cost" strategy,
24 it is the policy of the state to exploit all practicable and
25 cost-effective conservation and improvements in the efficiency of
26 energy use and distribution, and to achieve energy security,
27 diversity of supply sources, and competitiveness of transportation
28 energy markets based on the least environmental and economic
29 ~~cost.~~ *cost, and in furtherance of reducing petroleum use in the*
30 *transportation sector by 50 percent by January 1, 2030.*

31 (c) It is also the policy of this state to minimize the economic
32 and environmental costs due to the use of petroleum-based and
33 other transportation fuels by state agencies. In implementing a
34 least-cost economic and environmental strategy for state fleets, it
35 is the policy of the state to implement practicable and cost-effective
36 measures, including, but not necessarily limited to, the purchase
37 of the cleanest and most efficient automobiles and replacement
38 tires, the use of alternative fuels in its fleets, and other conservation
39 measures.

1 (d) For the purposes of this section, “petroleum based fuels”
2 means fuels derived from liquid unrefined crude oil, including
3 natural gas liquids, liquefied petroleum gas, or the energy fraction
4 of methyl tertiary-butyl ether (MTBE) or other ethers that is not
5 attributed to natural gas.

6 SEC. 5. Section 25943 of the Public Resources Code is
7 amended to read:

8 25943. (a) (1) By March 1, 2010, the commission shall
9 establish a regulatory proceeding to develop and implement a
10 comprehensive program to achieve greater energy savings in
11 California’s existing residential and nonresidential building stock.
12 This program shall comprise a complementary portfolio of
13 techniques, applications, and practices that will achieve greater
14 energy efficiency in existing residential and nonresidential
15 structures that fall significantly below the current standards in Title
16 24 of the California Code of Regulations, as determined by the
17 commission.

18 (2) The comprehensive program may include, but need not be
19 limited to, a broad range of energy assessments, building
20 benchmarking, energy rating, cost-effective energy efficiency
21 improvements, public and private sector energy efficiency
22 financing options, public outreach and education efforts, and green
23 workforce training.

24 (b) To develop and implement the program specified in
25 subdivision (a), the commission shall do both of the following:

26 (1) Coordinate with the Public Utilities Commission and consult
27 with representatives from the Bureau of Real Estate, the
28 Department of Housing and Community Development,
29 investor-owned and publicly owned utilities, local governments,
30 real estate licensees, commercial and homebuilders, commercial
31 property owners, small businesses, mortgage lenders, financial
32 institutions, home appraisers, inspectors, energy rating
33 organizations, consumer groups, environmental and environmental
34 justice groups, and other entities the commission deems
35 appropriate.

36 (2) Hold at least three public hearings in geographically diverse
37 locations throughout the state.

38 (c) In developing the requirements for the program specified in
39 subdivision (a), the commission shall consider all of the following:

- 1 (1) The amount of annual and peak energy savings, greenhouse
2 gas emission reductions, and projected customer utility bill savings
3 that will accrue from the program.
- 4 (2) The most cost-effective means and reasonable timeframes
5 to achieve the goals of the program.
- 6 (3) The various climatic zones within the state.
- 7 (4) An appropriate method to inform and educate the public
8 about the need for, benefits of, and environmental impacts of, the
9 comprehensive energy efficiency program.
- 10 (5) The most effective way to report the energy assessment
11 results and the corresponding energy efficiency improvements to
12 the owner of the residential or nonresidential building, including,
13 among other things, the following:
 - 14 (A) Prioritizing the identified energy efficiency improvements.
 - 15 (B) The payback period or cost-effectiveness of each
16 improvement identified.
 - 17 (C) The various incentives, loans, grants, and rebates offered
18 to finance the improvements.
 - 19 (D) Available financing options including all of the following:
 - 20 (i) Mortgages or sales agreement components.
 - 21 (ii) On-bill financing.
 - 22 (iii) Contractual property tax assessments.
 - 23 (iv) Home warranties.
- 24 (6) Existing statutory and regulatory requirements to achieve
25 energy efficiency savings and greenhouse gas emission reductions.
- 26 (7) A broad range of implementation approaches, including both
27 utility and nonutility administration of energy efficiency programs.
- 28 (8) Any other considerations deemed appropriate by the
29 commission.
- 30 (d) The program developed pursuant to this section shall do all
31 of the following:
 - 32 (1) Minimize the overall costs of establishing and implementing
33 the comprehensive energy efficiency program requirements.
 - 34 (2) Ensure, for residential buildings, that the energy efficiency
35 assessments, ratings, or improvements do not unreasonably or
36 unnecessarily affect the home purchasing process or the ability of
37 individuals to rent housing. A transfer of property subject to the
38 program implemented pursuant to this section shall not be
39 invalidated solely because of the failure of a person to comply
40 with a provision of the program.

1 (3) Ensure, for nonresidential buildings, that the energy
2 improvements do not have an undue economic impact on California
3 businesses.

4 (4) Determine, for residential buildings, the appropriateness of
5 the Home Energy Rating System (HERS) program to support the
6 goals of this section and whether there are a sufficient number of
7 HERS-certified raters available to meet the program requirements.

8 (5) Determine, for nonresidential structures, the availability of
9 an appropriate cost-effective energy efficiency assessment system
10 and whether there are a sufficient number of certified raters or
11 auditors available to meet the program requirements.

12 (6) Coordinate with the California Workforce Investment Board,
13 the Employment Training Panel, the California Community
14 Colleges, and other entities to ensure a qualified, well-trained
15 workforce is available to implement the program requirements.

16 (7) Coordinate with, and avoid duplication of, existing
17 proceedings of the Public Utilities Commission and programs
18 administered by utilities.

19 (e) A home energy rating or energy assessment service does not
20 meet the requirements of this section unless the service has been
21 certified by the commission to be in compliance with the program
22 criteria developed pursuant to this section and is in conformity
23 with other applicable elements of the program.

24 (f) (1) The commission shall periodically update the criteria
25 and adopt any revision that, in its judgment, is necessary to improve
26 or refine program requirements after receiving public input.

27 (2) *On or before January 1, 2017, and at least once every three*
28 *years thereafter, the commission shall adopt an update to the*
29 *program in furtherance of achieving a doubling of the energy*
30 *efficiency of buildings by January 1, 2030.*

31 (g) Before implementing an element of the program developed
32 pursuant to subdivision (a) that requires the expansion of statutory
33 authority of the commission or the Public Utilities Commission,
34 the commission and the Public Utilities Commission shall obtain
35 legislative approval for the expansion of their authorities.

36 (h) The commission shall report on the status of the program in
37 the integrated energy policy report pursuant to Section 25302.

38 (i) The commission shall fund activities undertaken pursuant
39 to this section from the Federal Trust Fund consistent with the
40 federal American Recovery and Reinvestment Act of 2009 (Public

1 Law 111-5) or other sources of nonstate funds available to the
2 commission for the purposes of this section.

3 (j) For purposes of this section, “energy assessment” means a
4 determination of an energy user’s energy consumption level,
5 relative efficiency compared to other users, and opportunities to
6 achieve greater efficiency or improve energy resource utilization.

7 SEC. 6. Section 399.11 of the Public Utilities Code is amended
8 to read:

9 399.11. The Legislature finds and declares all of the following:

10 (a) In order to attain a target of generating 20 percent of total
11 retail sales of electricity in California from eligible renewable
12 energy resources by December 31, 2013,~~and~~ 33 percent by
13 December 31, 2020, *and 50 percent by December 31, 2030*, it is
14 the intent of the Legislature that the commission and the Energy
15 Commission implement the California Renewables Portfolio
16 Standard Program described in this article.

17 (b) Achieving the renewables portfolio standard through the
18 procurement of various electricity products from eligible renewable
19 energy resources is intended to provide unique benefits to
20 California, including all of the following, each of which
21 independently justifies the program:

22 (1) Displacing fossil fuel consumption within the state.

23 (2) Adding new electrical generating facilities in the
24 transmission network within the Western Electricity Coordinating
25 Council service area.

26 (3) Reducing air pollution in the state.

27 (4) Meeting the state’s climate change goals by reducing
28 emissions of greenhouse gases associated with electrical generation.

29 (5) Promoting stable retail rates for electric service.

30 (6) Meeting the state’s need for a diversified and balanced
31 energy generation portfolio.

32 (7) Assistance with meeting the state’s resource adequacy
33 requirements.

34 (8) Contributing to the safe and reliable operation of the
35 electrical grid, including providing predictable electrical supply,
36 voltage support, lower line losses, and congestion relief.

37 (9) Implementing the state’s transmission and land use planning
38 activities related to development of eligible renewable energy
39 resources.

1 (c) The California Renewables Portfolio Standard Program is
2 intended to complement the Renewable Energy Resources Program
3 administered by the Energy Commission and established pursuant
4 to Chapter 8.6 (commencing with Section 25740) of Division 15
5 of the Public Resources Code.

6 (d) New and modified electric transmission facilities may be
7 necessary to facilitate the state achieving its renewables portfolio
8 standard targets.

9 (e) (1) Supplying electricity to California end-use customers
10 that is generated by eligible renewable energy resources is
11 necessary to improve California’s air quality and public health,
12 and the commission shall ensure rates are just and reasonable, and
13 are not significantly affected by the procurement requirements of
14 this article. This electricity may be generated anywhere in the
15 interconnected grid that includes many states, and areas of both
16 Canada and Mexico.

17 (2) This article requires generating resources located outside of
18 California that are able to supply that electricity to California
19 end-use customers to be treated identically to generating resources
20 located within the state, without discrimination.

21 (3) California electrical corporations have already executed,
22 and the commission has approved, power purchase agreements
23 with eligible renewable energy resources located outside of
24 California that will supply electricity to California end-use
25 customers. These resources will fully count toward meeting the
26 renewables portfolio standard procurement requirements. ~~In
27 addition, there are nearly 7,000 megawatts of additional proposed
28 renewable energy resources located outside of California that are
29 awaiting interconnection approval from the Independent System
30 Operator. All of these resources, if procured, will count as eligible
31 renewable energy resources that satisfy the portfolio content
32 requirements of paragraph (1) of subdivision (c) of Section 399.16.~~

33 SEC. 7. Section 399.12 of the Public Utilities Code is amended
34 to read:

35 399.12. For purposes of this article, the following terms have
36 the following meanings:

37 (a) “Conduit hydroelectric facility” means a facility for the
38 generation of electricity that uses only the hydroelectric potential
39 of an existing pipe, ditch, flume, siphon, tunnel, canal, or other

1 manmade conduit that is operated to distribute water for a
2 beneficial use.

3 (b) “Balancing authority” means the responsible entity that
4 integrates resource plans ahead of time, maintains load-interchange
5 generation balance within a balancing authority area, and supports
6 interconnection frequency in real time.

7 (c) “Balancing authority area” means the collection of
8 generation, transmission, and loads within the metered boundaries
9 of the area within which the balancing authority maintains the
10 electrical load-resource balance.

11 (d) “California balancing authority” is a balancing authority
12 with control over a balancing authority area primarily located in
13 this state and operating for retail sellers and local publicly owned
14 electric utilities subject to the requirements of this article and
15 includes the Independent System Operator (ISO) and a local
16 publicly owned electric utility operating a transmission grid that
17 is not under the operational control of the ISO. A California
18 balancing authority is responsible for the operation of the
19 transmission grid within its metered boundaries which may not be
20 limited by the political boundaries of the State of California.

21 (e) “Eligible renewable energy resource” means an electrical
22 generating facility that meets the definition of a “renewable
23 electrical generation facility” in Section 25741 of the Public
24 Resources Code, subject to the following:

25 (1) (A) An existing small hydroelectric generation facility of
26 30 megawatts or less shall be eligible only if a retail seller or local
27 publicly owned electric utility procured the electricity from the
28 facility as of December 31, 2005. A new hydroelectric facility that
29 commences generation of electricity after December 31, 2005, is
30 not an eligible renewable energy resource if it will cause an adverse
31 impact on instream beneficial uses or cause a change in the volume
32 or timing of streamflow.

33 (B) Notwithstanding subparagraph (A), a conduit hydroelectric
34 facility of 30 megawatts or less that commenced operation before
35 January 1, 2006, is an eligible renewable energy resource. A
36 conduit hydroelectric facility of 30 megawatts or less that
37 commences operation after December 31, 2005, is an eligible
38 renewable energy resource so long as it does not cause an adverse
39 impact on instream beneficial uses or cause a change in the volume
40 or timing of streamflow.

1 (C) A facility approved by the governing board of a local
2 publicly owned electric utility prior to June 1, 2010, for
3 procurement to satisfy renewable energy procurement obligations
4 adopted pursuant to former Section 387, shall be certified as an
5 eligible renewable energy resource by the Energy Commission
6 pursuant to this article, if the facility is a “renewable electrical
7 generation facility” as defined in Section 25741 of the Public
8 Resources Code.

9 (D) (i) A small hydroelectric generation unit with a nameplate
10 capacity not exceeding 40 megawatts that is operated as part of a
11 water supply or conveyance system is an eligible renewable energy
12 resource only for the retail seller or local publicly owned electric
13 utility that procured the electricity from the unit as of December
14 31, 2005. No unit shall be eligible pursuant to this subparagraph
15 if an application for certification is submitted to the Energy
16 Commission after January 1, 2013. Only one retail seller or local
17 publicly owned electric utility shall be deemed to have procured
18 electricity from a given unit as of December 31, 2005.

19 (ii) Notwithstanding clause (i), a local publicly owned electric
20 utility that meets the criteria of subdivision (j) of Section 399.30
21 may sell to another local publicly owned electric utility electricity
22 from small hydroelectric generation units that qualify as eligible
23 renewable energy resources under clause (i), and that electricity
24 may be used by the local publicly owned electric utility that
25 purchased the electricity to meet its renewables portfolio standard
26 procurement requirements. The total of all those sales from the
27 utility shall be no greater than 100,000 megawatthours of
28 electricity.

29 (iii) The amendments made to this subdivision by the act adding
30 this subparagraph are intended to clarify existing law and apply
31 from December 10, 2011.

32 (2) (A) A facility engaged in the combustion of municipal solid
33 waste shall not be considered an eligible renewable energy resource
34 ~~unless it is located in Stanislaus County and was operational prior~~
35 ~~to September 26, 1996.~~ *resource.*

36 (B) *Subparagraph (A) does not apply to contracts entered into*
37 *before January 1, 2016, for the procurement of renewable energy*
38 *resources from a facility located in Stanislaus County that was*
39 *operational prior to September 26, 1996.*

40 (f) “Procure” means to acquire through ownership or contract.

1 (g) “Procurement entity” means any person or corporation
2 authorized by the commission to enter into contracts to procure
3 eligible renewable energy resources on behalf of customers of a
4 retail seller pursuant to subdivision (f) of Section 399.13.

5 (h) (1) “Renewable energy credit” means a certificate of proof
6 associated with the generation of electricity from an eligible
7 renewable energy resource, issued through the accounting system
8 established by the Energy Commission pursuant to Section 399.25,
9 that one unit of electricity was generated and delivered by an
10 eligible renewable energy resource.

11 (2) “Renewable energy credit” includes all renewable and
12 environmental attributes associated with the production of
13 electricity from the eligible renewable energy resource, except for
14 an emissions reduction credit issued pursuant to Section 40709 of
15 the Health and Safety Code and any credits or payments associated
16 with the reduction of solid waste and treatment benefits created
17 by the utilization of biomass or biogas fuels.

18 (3) (A) Electricity generated by an eligible renewable energy
19 resource attributable to the use of nonrenewable fuels, beyond a
20 de minimis quantity used to generate electricity in the same process
21 through which the facility converts renewable fuel to electricity,
22 shall not result in the creation of a renewable energy credit. The
23 Energy Commission shall set the de minimis quantity of
24 nonrenewable fuels for each renewable energy technology at a
25 level of no more than 2 percent of the total quantity of fuel used
26 by the technology to generate electricity. The Energy Commission
27 may adjust the de minimis quantity for an individual facility, up
28 to a maximum of 5 percent, if it finds that all of the following
29 conditions are met:

30 (i) The facility demonstrates that the higher quantity of
31 nonrenewable fuel will lead to an increase in generation from the
32 eligible renewable energy facility that is significantly greater than
33 generation from the nonrenewable fuel alone.

34 (ii) The facility demonstrates that the higher quantity of
35 nonrenewable fuels will reduce the variability of its electrical
36 output in a manner that results in net environmental benefits to the
37 state.

38 (iii) The higher quantity of nonrenewable fuel is limited to either
39 natural gas or hydrogen derived by reformation of a fossil fuel.

1 (B) Electricity generated by a small hydroelectric generation
2 facility shall not result in the creation of a renewable energy credit
3 unless the facility meets the requirements of subparagraph (A) or
4 (D) of paragraph (1) of subdivision (e).

5 (C) Electricity generated by a conduit hydroelectric generation
6 facility shall not result in the creation of a renewable energy credit
7 unless the facility meets the requirements of subparagraph (B) of
8 paragraph (1) of subdivision (e).

9 (D) Electricity generated by a facility engaged in the combustion
10 of municipal solid waste shall not result in the creation of a
11 renewable energy credit unless the facility meets the requirements
12 of paragraph (2) of subdivision (e). *credit. This subparagraph does*
13 *not apply to renewable energy credits that were generated before*
14 *January 1, 2016, by a facility engaged in the combustion of*
15 *municipal solid waste located in Stanislaus County that was*
16 *operational prior to September 26, 1996, and sold pursuant to*
17 *contacts entered into before January 1, 2016.*

18 (i) “Renewables portfolio standard” means the specified
19 percentage of electricity generated by eligible renewable energy
20 resources that a retail seller or a local publicly owned electric utility
21 is required to procure pursuant to this article.

22 (j) “Retail seller” means an entity engaged in the retail sale of
23 electricity to end-use customers located within the state, including
24 any of the following:

25 (1) An electrical corporation, as defined in Section 218.

26 (2) A community choice aggregator. ~~The commission shall~~
27 ~~institute a rulemaking to determine the manner in which a A~~
28 ~~community choice aggregator will shall~~ participate in the
29 renewables portfolio standard program subject to the same terms
30 and conditions applicable to an electrical corporation.

31 (3) An electric service provider, as defined in Section ~~218.3;~~
32 ~~for all sales of electricity to customers beginning January 1, 2006.~~
33 ~~The commission shall institute a rulemaking to determine the~~
34 ~~manner in which electric service providers will participate in the~~
35 ~~renewables portfolio standard program. 218.3.~~ The electric service
36 provider shall be subject to the same terms and conditions
37 applicable to an electrical corporation pursuant to this article. This
38 paragraph does not impair a contract entered into between an
39 electric service provider and a retail customer prior to the

1 suspension of direct access by the commission pursuant to Section
2 80110 of the Water Code.

3 (4) “Retail seller” does not include any of the following:

4 (A) A corporation or person employing cogeneration technology
5 or producing electricity consistent with subdivision (b) of Section
6 218.

7 (B) The Department of Water Resources acting in its capacity
8 pursuant to Division 27 (commencing with Section 80000) of the
9 Water Code.

10 (C) A local publicly owned electric utility.

11 (k) “WECC” means the Western Electricity Coordinating
12 Council of the North American Electric Reliability Corporation,
13 or a successor to the corporation.

14 SEC. 8. Section 399.13 of the Public Utilities Code is amended
15 to read:

16 399.13. (a) (1) The commission shall direct each electrical
17 corporation to annually prepare a renewable energy procurement
18 plan that includes the matter in paragraph (5), to satisfy its
19 obligations under the renewables portfolio standard. To the extent
20 feasible, this procurement plan shall be proposed, reviewed, and
21 adopted by the commission as part of, and pursuant to, a general
22 procurement plan process. The commission shall require each
23 electrical corporation to review and update its renewable energy
24 procurement plan as it determines to be necessary. *The commission*
25 *shall require all other retail sellers to prepare and submit*
26 *renewable energy procurement plans that address the requirements*
27 *identified in paragraph (5).*

28 (2) Every electrical corporation that owns electrical transmission
29 facilities shall annually prepare, as part of the Federal Energy
30 Regulatory Commission Order 890 process, and submit to the
31 commission, a report identifying any electrical transmission
32 facility, upgrade, or enhancement that is reasonably necessary to
33 achieve the renewables portfolio standard procurement
34 requirements of this article. Each report shall look forward at least
35 five years and, to ensure that adequate investments are made in a
36 timely manner, shall include a preliminary schedule when an
37 application for a certificate of public convenience and necessity
38 will be made, pursuant to Chapter 5 (commencing with Section
39 1001), for any electrical transmission facility identified as being
40 reasonably necessary to achieve the renewable energy resources

1 procurement requirements of this article. Each electrical
2 corporation that owns electrical transmission facilities shall ensure
3 that project-specific interconnection studies are completed in a
4 timely manner.

5 (3) The commission shall direct each retail seller to prepare and
6 submit an annual compliance report that includes all of the
7 following:

8 (A) The current status and progress made during the prior year
9 toward procurement of eligible renewable energy resources as a
10 percentage of retail sales, including, if applicable, the status of any
11 necessary siting and permitting approvals from federal, state, and
12 local agencies for those eligible renewable energy resources
13 procured by the retail seller, and the current status of compliance
14 with the portfolio content requirements of subdivision (c) of
15 Section 399.16, including procurement of eligible renewable energy
16 resources located outside the state and within the WECC and
17 unbundled renewable energy credits.

18 (B) If the retail seller is an electrical corporation, the current
19 status and progress made during the prior year toward construction
20 of, and upgrades to, transmission and distribution facilities and
21 other electrical system components it owns to interconnect eligible
22 renewable energy resources and to supply the electricity generated
23 by those resources to load, including the status of planning, siting,
24 and permitting transmission facilities by federal, state, and local
25 agencies.

26 (C) Recommendations to remove impediments to making
27 progress toward achieving the renewable energy resources
28 procurement requirements established pursuant to this article.

29 (4) The commission shall adopt, by rulemaking, all of the
30 following:

31 (A) A process that provides criteria for the rank ordering and
32 selection of least-cost and best-fit eligible renewable energy
33 resources to comply with the California Renewables Portfolio
34 Standard Program obligations on a total cost basis. This process
35 shall take into account all of the following:

36 (i) Estimates of indirect costs associated with needed
37 transmission investments.

38 (ii) The cost impact of procuring the eligible renewable energy
39 resources on the electrical corporation's electricity portfolio.

1 (iii) The viability of the project to construct and reliably operate
2 the eligible renewable energy resource, including the developer's
3 experience, the feasibility of the technology used to generate
4 electricity, and the risk that the facility will not be built, or that
5 construction will be delayed, with the result that electricity will
6 not be supplied as required by the contract.

7 (iv) Workforce recruitment, training, and retention efforts,
8 including the employment growth associated with the construction
9 and operation of eligible renewable energy resources and goals
10 for recruitment and training of women, minorities, and disabled
11 veterans.

12 (v) (I) Estimates of electrical corporation expenses resulting
13 from integrating and operating eligible renewable energy resources,
14 including, but not limited to, any additional wholesale energy and
15 capacity costs associated with integrating each eligible renewable
16 resource.

17 (II) No later than December 31, 2015, the commission shall
18 approve a methodology for determining the integration costs
19 described in subclause (I).

20 (B) Rules permitting retail sellers to accumulate, beginning
21 January 1, 2011, excess procurement in one compliance period to
22 be applied to any subsequent compliance period. The rules shall
23 apply equally to all retail sellers. In determining the quantity of
24 excess procurement for the applicable compliance period, the
25 commission shall deduct from actual procurement quantities the
26 total amount of procurement associated with contracts of less than
27 10 years in ~~duration. In no event shall~~ *duration and* electricity
28 products meeting the portfolio content of paragraph (3) of
29 subdivision (b) of Section ~~399.16~~ *be counted as excess*
30 ~~procurement.~~ *399.16.*

31 (C) Standard terms and conditions to be used by all electrical
32 corporations in contracting for eligible renewable energy resources,
33 including performance requirements for renewable generators. A
34 contract for the purchase of electricity generated by an eligible
35 renewable energy resource, at a minimum, shall include the
36 renewable energy credits associated with all electricity generation
37 specified under the contract. The standard terms and conditions
38 shall include the requirement that, no later than six months after
39 the commission's approval of an electricity purchase agreement
40 entered into pursuant to this article, the following information

1 about the agreement shall be disclosed by the commission: party
2 names, resource type, project location, and project capacity.

3 (D) An appropriate minimum margin of procurement above the
4 minimum procurement level necessary to comply with the
5 renewables portfolio standard to mitigate the risk that renewable
6 projects planned or under contract are delayed or canceled. This
7 paragraph does not preclude an electrical corporation from
8 voluntarily proposing a margin of procurement above the
9 appropriate minimum margin established by the commission.

10 (5) Consistent with the goal of increasing California's reliance
11 on eligible renewable energy resources, the renewable energy
12 procurement plan ~~submitted by an electrical corporation~~ shall
13 include all of the following:

14 (A) An assessment of annual or multiyear portfolio supplies
15 and demand to determine the optimal mix of eligible renewable
16 energy resources with deliverability characteristics that may include
17 peaking, dispatchable, baseload, firm, and as-available capacity.

18 (B) Potential compliance delays related to the conditions
19 described in paragraph (5) of subdivision (b) of Section 399.15.

20 (C) A bid solicitation setting forth the need for eligible
21 renewable energy resources of each deliverability characteristic,
22 required online dates, and locational preferences, if any.

23 (D) A status update on the development schedule of all eligible
24 renewable energy resources currently under contract.

25 (E) Consideration of mechanisms for price adjustments
26 associated with the costs of key components for eligible renewable
27 energy resource projects with online dates more than 24 months
28 after the date of contract execution.

29 (F) An assessment of the risk that an eligible renewable energy
30 resource will not be built, or that construction will be delayed,
31 with the result that electricity will not be delivered as required by
32 the contract.

33 (6) In soliciting and procuring eligible renewable energy
34 resources, each electrical corporation shall offer contracts of no
35 less than 10 years duration, unless the commission approves of a
36 contract of shorter duration.

37 (7) In soliciting and procuring eligible renewable energy
38 resources for California-based projects, each electrical corporation
39 shall give preference to renewable energy projects that provide
40 environmental and economic benefits to communities afflicted

1 with poverty or high unemployment, or that suffer from high
2 emission levels of toxic air contaminants, criteria air pollutants,
3 and greenhouse gases.

4 (b) A retail seller may enter into a combination of long- and
5 short-term contracts for electricity and associated renewable energy
6 credits. The commission may authorize a retail seller to enter into
7 a contract of less than 10 years' duration with an eligible renewable
8 energy resource, if the commission has established, for each retail
9 seller, minimum quantities of eligible renewable energy resources
10 to be procured through contracts of at least 10 years' duration.

11 (c) The commission shall review and accept, modify, or reject
12 each electrical corporation's renewable energy resource
13 procurement plan prior to the commencement of renewable energy
14 procurement pursuant to this article by an electrical corporation.

15 (d) Unless previously preapproved by the commission, an
16 electrical corporation shall submit a contract for the generation of
17 an eligible renewable energy resource to the commission for review
18 and approval consistent with an approved renewable energy
19 resource procurement plan. If the commission determines that the
20 bid prices are elevated due to a lack of effective competition among
21 the bidders, the commission shall direct the electrical corporation
22 to renegotiate the contracts or conduct a new solicitation.

23 (e) If an electrical corporation fails to comply with a commission
24 order adopting a renewable energy resource procurement plan, the
25 commission shall exercise its authority pursuant to ~~Section 2113~~
26 ~~to require compliance. The commission shall enforce comparable~~
27 ~~penalties on any retail seller that is not an electrical corporation~~
28 ~~that fails to meet the procurement targets established pursuant to~~
29 ~~Section 399.15.~~

30 (f) (1) The commission may authorize a procurement entity to
31 enter into contracts on behalf of customers of a retail seller for
32 electricity products from eligible renewable energy resources to
33 satisfy the retail seller's renewables portfolio standard procurement
34 requirements. The commission shall not require any person or
35 corporation to act as a procurement entity or require any party to
36 purchase eligible renewable energy resources from a procurement
37 entity.

38 (2) Subject to review and approval by the commission, the
39 procurement entity shall be permitted to recover reasonable
40 administrative and procurement costs through the retail rates of

1 end-use customers that are served by the procurement entity and
2 are directly benefiting from the procurement of eligible renewable
3 energy resources.

4 (g) Procurement and administrative costs associated with
5 contracts entered into by an electrical corporation for eligible
6 renewable energy resources pursuant to this article and approved
7 by the commission are reasonable and prudent and shall be
8 recoverable in rates.

9 (h) Construction, alteration, demolition, installation, and repair
10 work on an eligible renewable energy resource that receives
11 production incentives pursuant to Section 25742 of the Public
12 Resources Code, including work performed to qualify, receive, or
13 maintain production incentives, are “public works” for the purposes
14 of Chapter 1 (commencing with Section 1720) of Part 7 of Division
15 2 of the Labor Code.

16 SEC. 9. Section 399.15 of the Public Utilities Code is amended
17 to read:

18 399.15. (a) In order to fulfill unmet long-term resource needs,
19 the commission shall establish a renewables portfolio standard
20 requiring all retail sellers to procure a minimum quantity of
21 electricity products from eligible renewable energy resources as
22 a specified percentage of total kilowatthours sold to their retail
23 end-use customers each compliance period to achieve the targets
24 established under this article. For any retail seller procuring at least
25 14 percent of retail sales from eligible renewable energy resources
26 in 2010, the deficits associated with any previous renewables
27 portfolio standard shall not be added to any procurement
28 requirement pursuant to this article.

29 (b) The commission shall implement renewables portfolio
30 standard procurement requirements only as follows:

31 (1) Each retail seller shall procure a minimum quantity of
32 eligible renewable energy resources for each of the following
33 compliance periods:

34 (A) January 1, 2011, to December 31, 2013, inclusive.

35 (B) January 1, 2014, to December 31, 2016, inclusive.

36 (C) January 1, 2017, to December 31, 2020, inclusive.

37 (D) *January 1, 2021, to December 31, 2024, inclusive.*

38 (E) *January 1, 2025, to December 31, 2027, inclusive.*

39 (D) *January 1, 2028, to December 31, 2030, inclusive.*

1 (2) (A) No later than January 1, ~~2012~~, 2017, the commission
2 shall establish the quantity of electricity products from eligible
3 renewable energy resources to be procured by the retail seller for
4 each compliance period. These quantities shall be established in
5 the same manner for all retail sellers and result in the same
6 percentages used to establish compliance period quantities for all
7 retail sellers.

8 (B) In establishing quantities for the compliance period from
9 January 1, 2011, to December 31, 2013, inclusive, the commission
10 shall require procurement for each retail seller equal to an average
11 of 20 percent of retail sales. For the following compliance periods,
12 the quantities shall reflect reasonable progress in each of the
13 intervening years sufficient to ensure that the procurement of
14 electricity products from eligible renewable energy resources
15 achieves 25 percent of retail sales by December 31, 2016, ~~and 33~~
16 ~~percent of retail sales by December 31, 2020. 2020, 40 percent by~~
17 *December 31, 2024, 45 percent by December 31, 2027, and 50*
18 *percent by December 31, 2030.* The commission shall *establish*
19 *appropriate multiyear compliance periods for all subsequent years*
20 *that require retail sellers to procure not less than 33 50 percent of*
21 *retail sales of electricity products from eligible renewable energy*
22 ~~resources in all subsequent years.~~ *resources.*

23 (C) Retail sellers shall be obligated to procure no less than the
24 quantities associated with all intervening years by the end of each
25 compliance period. Retail sellers shall not be required to
26 demonstrate a specific quantity of procurement for any individual
27 intervening year.

28 (3) The commission may require the procurement of eligible
29 renewable energy resources in excess of the quantities specified
30 in paragraph (2).

31 (4) Only for purposes of establishing the renewables portfolio
32 standard procurement requirements of paragraph (1) and
33 determining the quantities pursuant to paragraph (2), the
34 commission shall include all electricity sold to retail customers by
35 the Department of Water Resources pursuant to Division 27
36 (commencing with Section 80000) of the Water Code in the
37 calculation of retail sales by an electrical corporation.

38 (5) The commission shall waive enforcement of this section if
39 it finds that the retail seller has demonstrated any of the following

1 conditions are beyond the control of the retail seller and will
2 prevent compliance:

3 (A) There is inadequate transmission capacity to allow for
4 sufficient electricity to be delivered from proposed eligible
5 renewable energy resource projects using the current operational
6 protocols of the Independent System Operator. In making its
7 findings relative to the existence of this condition with respect to
8 a retail seller that owns transmission lines, the commission shall
9 consider both of the following:

10 (i) Whether the retail seller has undertaken, in a timely fashion,
11 reasonable measures under its control and consistent with its
12 obligations under local, state, and federal laws and regulations, to
13 develop and construct new transmission lines or upgrades to
14 existing lines intended to transmit electricity generated by eligible
15 renewable energy resources. In determining the reasonableness of
16 a retail seller's actions, the commission shall consider the retail
17 seller's expectations for full-cost recovery for these transmission
18 lines and upgrades.

19 (ii) Whether the retail seller has taken all reasonable operational
20 measures to maximize cost-effective deliveries of electricity from
21 eligible renewable energy resources in advance of transmission
22 availability.

23 (B) Permitting, interconnection, or other circumstances that
24 delay procured eligible renewable energy resource projects, or
25 there is an insufficient supply of eligible renewable energy
26 resources available to the retail seller. In making a finding that this
27 condition prevents timely compliance, the commission shall
28 consider whether the retail seller has done all of the following:

29 (i) Prudently managed portfolio risks, including relying on a
30 sufficient number of viable projects.

31 (ii) Sought to develop one of the following: its own eligible
32 renewable energy resources, transmission to interconnect to eligible
33 renewable energy resources, or energy storage used to integrate
34 eligible renewable energy resources. This clause shall not require
35 an electrical corporation to pursue development of eligible
36 renewable energy resources pursuant to Section 399.14.

37 (iii) Procured an appropriate minimum margin of procurement
38 above the minimum procurement level necessary to comply with
39 the renewables portfolio standard to compensate for foreseeable
40 delays or insufficient supply.

1 (iv) Taken reasonable measures, under the control of the retail
2 seller, to procure cost-effective distributed generation and allowable
3 unbundled renewable energy credits.

4 (C) Unanticipated curtailment of eligible renewable energy
5 resources necessary to address the needs of a balancing authority.

6 (6) If the commission waives the compliance requirements of
7 this section, the commission shall establish additional reporting
8 requirements on the retail seller to demonstrate that all reasonable
9 actions under the control of the retail seller are taken in each of
10 the intervening years sufficient to satisfy future procurement
11 requirements.

12 (7) The commission shall not waive enforcement pursuant to
13 this section, unless the retail seller demonstrates that it has taken
14 all reasonable actions under its control, as set forth in paragraph
15 (5), to achieve full compliance.

16 (8) If a retail seller fails to procure sufficient eligible renewable
17 energy resources to comply with a procurement requirement
18 pursuant to paragraphs (1) and (2) and fails to obtain an order from
19 the commission waiving enforcement pursuant to paragraph (5),
20 the commission shall ~~exercise its authority pursuant to Section~~
21 ~~2413~~ *assess penalties for noncompliance. A schedule of penalties*
22 *shall be adopted by the commission that shall be comparable for*
23 *electrical corporations and other retail sellers. For electrical*
24 *corporations, the cost of any penalties shall not be collected in*
25 *rates. Any penalties collected under this article shall be deposited*
26 *into the Electric Program Investment Charge Fund and used for*
27 *the purposes described in Chapter 8.1 (commencing with Section*
28 *25710) of Division 15 of the Public Resources Code.*

29 (9) Deficits associated with the compliance period shall not be
30 added to a future compliance period.

31 (c) The commission shall establish a limitation for each electrical
32 corporation on the procurement expenditures for all eligible
33 renewable energy resources used to comply with the renewables
34 portfolio standard. ~~In establishing this limitation, the commission~~
35 ~~shall rely on the following:~~ *This limitation shall be set at a level*
36 *that prevents disproportionate rate impacts.*

37 ~~(1) The most recent renewable energy procurement plan.~~

38 ~~(2) Procurement expenditures that approximate the expected~~
39 ~~cost of building, owning, and operating eligible renewable energy~~
40 ~~resources.~~

1 ~~(3) The potential that some planned resource additions may be~~
2 ~~delayed or canceled.~~

3 ~~(d) In developing the limitation pursuant to subdivision (c), the~~
4 ~~commission shall ensure all of the following:~~

5 ~~(1) The limitation is set at a level that prevents disproportionate~~
6 ~~rate impacts.~~

7 ~~(2) The costs of all procurement credited toward achieving the~~
8 ~~renewables portfolio standard are counted towards the limitation.~~

9 ~~(3) Procurement expenditures do not include any indirect~~
10 ~~expenses, including imbalance energy charges, sale of excess~~
11 ~~energy, decreased generation from existing resources, transmission~~
12 ~~upgrades, or the costs associated with relicensing any utility-owned~~
13 ~~hydroelectric facilities.~~

14 ~~(e) (1) No later than January 1, 2016, the commission shall~~
15 ~~prepare a report to the Legislature assessing whether each electrical~~
16 ~~corporation can achieve a 33-percent renewables portfolio standard~~
17 ~~by December 31, 2020, and maintain that level thereafter, within~~
18 ~~the adopted cost limitations. If the commission determines that it~~
19 ~~is necessary to change the limitation for procurement costs incurred~~
20 ~~by any electrical corporation after that date, it may propose a~~
21 ~~revised cap consistent with the criteria in subdivisions (c) and (d).~~
22 ~~The proposed modifications shall take effect no earlier than January~~
23 ~~1, 2017.~~

24 ~~(2) Notwithstanding Section 10231.5 of the Government Code,~~
25 ~~the requirement for submitting a report imposed under paragraph~~
26 ~~(1) is inoperative on January 1, 2021.~~

27 ~~(3) A report to be submitted pursuant to paragraph (1) shall be~~
28 ~~submitted in compliance with Section 9795 of the Government~~
29 ~~Code.~~

30 ~~(f)~~

31 ~~(d) If the cost limitation for an electrical corporation is~~
32 ~~insufficient to support the projected costs of meeting the~~
33 ~~renewables portfolio standard procurement requirements, the~~
34 ~~electrical corporation may refrain from entering into new contracts~~
35 ~~or constructing facilities beyond the quantity that can be procured~~
36 ~~within the limitation, unless eligible renewable energy resources~~
37 ~~can be procured without exceeding a de minimis increase in rates,~~
38 ~~consistent with the long-term procurement plan established for the~~
39 ~~electrical corporation pursuant to Section 454.5.~~

40 ~~(g)~~

1 (e) (1) The commission shall monitor the status of the cost
2 limitation for each electrical corporation in order to ensure
3 compliance with this article.

4 (2) If the commission determines that an electrical corporation
5 may exceed its cost limitation prior to achieving the renewables
6 portfolio standard procurement requirements, the commission shall
7 do both of the following within 60 days of making that
8 determination:

9 (A) Investigate and identify the reasons why the electrical
10 corporation may exceed its annual cost limitation.

11 (B) Notify the appropriate policy and fiscal committees of the
12 Legislature that the electrical corporation may exceed its cost
13 limitation, and include the reasons why the electrical corporation
14 may exceed its cost limitation.

15 ~~(h)~~

16 (f) The establishment of a renewables portfolio standard shall
17 not constitute implementation by the commission of the federal
18 Public Utility Regulatory Policies Act of 1978 (Public Law
19 95-617).

20 SEC. 10. Section 399.16 of the Public Utilities Code is
21 amended to read:

22 399.16. (a) Various electricity products from eligible renewable
23 energy resources located within the WECC transmission network
24 service area shall be eligible to comply with the renewables
25 portfolio standard procurement requirements in Section 399.15.
26 These electricity products may be differentiated by their impacts
27 on the operation of the grid in supplying electricity, as well as,
28 meeting the requirements of this article.

29 (b) Consistent with the goals of procuring the least-cost and
30 best-fit electricity products from eligible renewable energy
31 resources that meet project viability principles adopted by the
32 commission pursuant to paragraph (4) of subdivision (a) of Section
33 399.13 and that provide the benefits set forth in Section 399.11, a
34 balanced portfolio of eligible renewable energy resources shall be
35 procured consisting of the following portfolio content categories:

36 (1) Eligible renewable energy resource electricity products that
37 meet either of the following criteria:

38 (A) Have a first point of interconnection with a California
39 balancing authority, have a first point of interconnection with
40 distribution facilities used to serve end users within a California

1 balancing authority area, or are scheduled from the eligible
2 renewable energy resource into a California balancing authority
3 without substituting electricity from another source. The use of
4 another source to provide real-time ancillary services required to
5 maintain an hourly or subhourly import schedule into a California
6 balancing authority shall be permitted, but only the fraction of the
7 schedule actually generated by the eligible renewable energy
8 resource shall count toward this portfolio content category.

9 (B) Have an agreement to dynamically transfer electricity to a
10 California balancing authority.

11 (2) Firmed and shaped eligible renewable energy resource
12 electricity products providing incremental electricity and scheduled
13 into a California balancing authority.

14 (3) Eligible renewable energy resource electricity products, or
15 any fraction of the electricity generated, including unbundled
16 renewable energy credits, that do not qualify under the criteria of
17 paragraph (1) or (2).

18 (c) In order to achieve a balanced portfolio, all retail sellers
19 shall meet the following requirements for all procurement credited
20 toward each compliance period:

21 (1) Not less than 50 percent for the compliance period ending
22 December 31, 2013, 65 percent for the compliance period ending
23 December 31, 2016, and 75 percent ~~thereafter~~ *for the compliance*
24 *period ending December 31, 2020*, of the eligible renewable energy
25 resource electricity products associated with contracts executed
26 after June 1, 2010, shall meet the product content requirements of
27 paragraph (1) of subdivision (b). *Each retail seller shall continue*
28 *to satisfy the product content requirements applicable to*
29 *procurement quantities associated with the compliance period*
30 *ending December 31, 2020, and ensure that, for compliance*
31 *periods ending after December 31, 2020, not less than 75 percent*
32 *of the incremental renewable procurement requirements in each*
33 *compliance period shall be satisfied with eligible renewable energy*
34 *resource electricity products meeting the requirements of*
35 *paragraph (1) of subdivision (b).*

36 (2) Not more than 25 percent for the compliance period ending
37 December 31, 2013, 15 percent for the compliance period ending
38 December 31, 2016, and 10 percent ~~thereafter~~ *for compliance*
39 *period ending December 31, 2020*, of the eligible renewable energy
40 resource electricity products associated with contracts executed

1 after June 1, 2010, shall meet the product content requirements of
2 paragraph (3) of subdivision (b). *For the compliance periods*
3 *ending after December 31, 2020, not more than 10 percent of the*
4 *incremental renewable procurement requirements in each*
5 *compliance period shall be satisfied with eligible renewable energy*
6 *resource electricity products meeting the requirements of*
7 *paragraph (3) of subdivision (b).*

8 (3) Any renewable energy resources contracts executed on or
9 after June 1, 2010, not subject to the limitations of paragraph (1)
10 or (2), shall meet the product content requirements of paragraph
11 (2) of subdivision (b).

12 (4) For purposes of electric service providers only, the
13 restrictions in this subdivision on crediting eligible renewable
14 energy resource electricity products to each compliance period
15 shall apply to contracts executed after January 13, 2011.

16 (d) Any contract or ownership agreement originally executed
17 prior to June 1, 2010, shall count in full toward the procurement
18 requirements established pursuant to this article, if all of the
19 following conditions are met:

20 (1) The renewable energy resource was eligible under the rules
21 in place as of the date when the contract was executed.

22 (2) For an electrical corporation, the contract has been approved
23 by the commission, even if that approval occurs after June 1, 2010.

24 (3) Any contract amendments or modifications occurring after
25 June 1, 2010, do not increase the nameplate capacity or expected
26 quantities of annual generation, or substitute a different renewable
27 energy resource. The duration of the contract may be extended if
28 the original contract specified a procurement commitment of 15
29 or more years.

30 (e) A retail seller may apply to the commission for a reduction
31 of a procurement content requirement of subdivision (c). The
32 commission may reduce a procurement content requirement of
33 subdivision (c) to the extent the retail seller demonstrates that it
34 cannot comply with that subdivision because of conditions beyond
35 the control of the retail seller as provided in paragraph (5) of
36 subdivision (b) of Section 399.15. The commission shall not, under
37 any circumstance, reduce the obligation specified in paragraph (1)
38 of subdivision (c) below 65 percent for any compliance *period*
39 obligation after December 31, 2016.

1 SEC. 11. Section 399.18 of the Public Utilities Code is
2 amended to read:

3 399.18. (a) This section applies to an electrical corporation
4 that as of January 1, 2010, met either of the following conditions:

5 (1) Served 30,000 or fewer customer accounts in California and
6 had issued at least four solicitations for eligible renewable energy
7 resources prior to June 1, 2010.

8 (2) Had 1,000 or fewer customer accounts in California and was
9 not connected to any transmission system or to the Independent
10 System Operator.

11 (b) For an electrical corporation or its successor, electricity
12 products from eligible renewable energy resources may be used
13 for compliance with this article, notwithstanding any procurement
14 content limitation in Section 399.16, provided that ~~both~~ *all* of the
15 following conditions are met:

16 (1) The electrical corporation or its successor participates in,
17 and complies with, the accounting system administered by the
18 Energy Commission pursuant to subdivision (b) of Section 399.25.

19 (2) The Energy Commission verifies that the electricity
20 generated by the facility is eligible to meet the requirements of
21 Section 399.15.

22 (3) *The electrical corporation continues to satisfy either of the*
23 *conditions described in subdivision (a).*

24 SEC. 12. Section 399.21 of the Public Utilities Code is
25 amended to read:

26 399.21. (a) The commission, by rule, shall authorize the use
27 of renewable energy credits to satisfy the renewables portfolio
28 standard procurement requirements established pursuant to this
29 article, subject to the following conditions:

30 (1) ~~Prior to authorizing any renewable energy credit to be used~~
31 ~~toward satisfying the renewables portfolio standard procurement~~
32 ~~requirements, the~~ *The* commission and the Energy Commission
33 shall ~~conclude~~ *ensure* that the tracking system established pursuant
34 to subdivision (c) of Section 399.25, is operational, is capable of
35 independently verifying that electricity earning the credit is
36 generated by an eligible renewable energy resource, and can ensure
37 that renewable energy credits shall not be double counted by any
38 seller of electricity within the service territory of the WECC.

39 (2) Each renewable energy credit shall be counted only once
40 for compliance with the renewables portfolio standard of this state

1 or any other state, or for verifying retail product claims in this state
2 or any other state.

3 (3) All revenues received by an electrical corporation for the
4 sale of a renewable energy credit shall be credited to the benefit
5 of ratepayers.

6 (4) Renewable energy credits shall not be created for electricity
7 generated pursuant to any electricity purchase contract with a retail
8 seller or a local publicly owned electric utility executed before
9 January 1, 2005, unless the contract contains explicit terms and
10 conditions specifying the ownership or disposition of those credits.
11 Procurement under those contracts shall be tracked through the
12 accounting system described in subdivision (b) of Section 399.25
13 and included in the quantity of eligible renewable energy resources
14 of the purchasing retail seller pursuant to Section 399.15.

15 (5) Renewable energy credits shall not be created for electricity
16 generated under any electricity purchase contract executed after
17 January 1, 2005, pursuant to the federal Public Utility Regulatory
18 Policies Act of 1978 (16 U.S.C. Sec. 2601 et seq.). Procurement
19 under the electricity purchase contracts shall be tracked through
20 the accounting system implemented by the Energy Commission
21 pursuant to subdivision (b) of Section 399.25 and count toward
22 the renewables portfolio standard procurement requirements of
23 the purchasing retail seller.

24 (6) A renewable energy credit shall not be eligible for
25 compliance with a renewables portfolio standard procurement
26 requirement unless it is retired in the tracking system established
27 pursuant to subdivision (c) of Section 399.25 by the retail seller
28 or local publicly owned electric utility within 36 months from the
29 initial date of generation of the associated electricity.

30 (b) The commission shall allow an electrical corporation to
31 recover the reasonable costs of purchasing, selling, and
32 administering renewable energy credit contracts in rates.

33 SEC. 13. Section 399.30 of the Public Utilities Code is
34 amended to read:

35 399.30. (a) To fulfill unmet long-term generation resource
36 needs, each local publicly owned electric utility shall adopt and
37 implement a renewable energy resources procurement plan that
38 requires the utility to procure a minimum quantity of electricity
39 products from eligible renewable energy resources, including
40 renewable energy credits, as a specified percentage of total

1 kilowatthours sold to the utility’s retail end-use customers, each
2 compliance period, to achieve the targets of subdivision (c).

3 (b) The governing board shall implement procurement targets
4 for a local publicly owned electric utility that require the utility to
5 procure a minimum quantity of eligible renewable energy resources
6 for each of the following compliance periods:

7 (1) January 1, 2011, to December 31, 2013, inclusive.

8 (2) January 1, 2014, to December 31, 2016, inclusive.

9 (3) January 1, 2017, to December 31, 2020, inclusive.

10 (D) *January 1, 2021, to December 31, 2024, inclusive.*

11 (E) *January 1, 2025, to December 31, 2027, inclusive.*

12 (D) *January 1, 2028, to December 31, 2030, inclusive.*

13 (c) The governing board of a local publicly owned electric utility
14 shall ensure all of the following:

15 (1) The quantities of eligible renewable energy resources to be
16 procured for the compliance period from January 1, 2011, to
17 December 31, 2013, inclusive, are equal to an average of 20 percent
18 of retail sales.

19 (2) The quantities of eligible renewable energy resources to be
20 procured for all other compliance periods reflect reasonable
21 progress in each of the intervening years sufficient to ensure that
22 the procurement of electricity products from eligible renewable
23 energy resources achieves 25 percent of retail sales by December
24 31, 2016, ~~and 33 percent of retail sales by December 31, 2020.~~
25 *2020, 40 percent by December 31, 2024, 45 percent by December*
26 *31, 2027, and 50 percent by December 31, 2030. The local*
27 ~~governing board shall~~ *Energy Commission shall establish*
28 *appropriate multiyear compliance periods for all subsequent years*
29 *that require the local publicly owned electric utilities utility to*
30 *procure not less than* ~~33~~ *50 percent of retail sales of electricity*
31 *products from eligible renewable energy resources in all subsequent*
32 ~~years.~~ *resources.*

33 (3) A local publicly owned electric utility shall adopt
34 procurement requirements consistent with Section 399.16.

35 (d) The governing board of a local publicly owned electric utility
36 may adopt the following measures:

37 (1) Rules permitting the utility to apply excess procurement in
38 one compliance period to subsequent compliance periods in the
39 same manner as allowed for retail sellers pursuant to Section
40 399.13.

1 (2) Conditions that allow for delaying timely compliance
2 consistent with subdivision (b) of Section 399.15.

3 (3) Cost limitations for procurement expenditures consistent
4 with subdivision (c) of Section 399.15.

5 (e) The governing board of the local publicly owned electric
6 utility shall adopt a program for the enforcement of this ~~article on~~
7 ~~or before January 1, 2012.~~ *article*. The program shall be adopted
8 at a publicly noticed meeting offering all interested parties an
9 opportunity to comment. Not less than 30 days' notice shall be
10 given to the public of any meeting held for purposes of adopting
11 the program. Not less than 10 days' notice shall be given to the
12 public before any meeting is held to make a substantive change to
13 the program.

14 (f) (1) Each local publicly owned electric utility shall annually
15 post notice, in accordance with Chapter 9 (commencing with
16 Section 54950) of Part 1 of Division 2 of Title 5 of the Government
17 Code, whenever its governing body will deliberate in public on its
18 renewable energy resources procurement plan.

19 (2) Contemporaneous with the posting of the notice of a public
20 meeting to consider the renewable energy resources procurement
21 plan, the local publicly owned electric utility shall notify the
22 Energy Commission of the date, time, and location of the meeting
23 in order to enable the Energy Commission to post the information
24 on its Internet Web site. This requirement is satisfied if the local
25 publicly owned electric utility provides the uniform resource
26 locator (URL) that links to this information.

27 (3) Upon distribution to its governing body of information
28 related to its renewable energy resources procurement status and
29 future plans, for its consideration at a noticed public meeting, the
30 local publicly owned electric utility shall make that information
31 available to the public and shall provide the Energy Commission
32 with an electronic copy of the documents for posting on the Energy
33 Commission's Internet Web site. This requirement is satisfied if
34 the local publicly owned electric utility provides the uniform
35 resource locator (URL) that links to the documents or information
36 regarding other manners of access to the documents.

37 (g) A public utility district that receives all of its electricity
38 pursuant to a preference right adopted and authorized by the United
39 States Congress pursuant to Section 4 of the Trinity River Division

1 Act of August 12, 1955 (Public Law 84-386) shall be in compliance
2 with the renewable energy procurement requirements of this article.

3 (h) For a local publicly owned electric utility that was in
4 existence on or before January 1, 2009, that provides retail electric
5 service to 15,000 or fewer customer accounts in California, and is
6 interconnected to a balancing authority located outside this state
7 but within the WECC, an eligible renewable energy resource
8 includes a facility that is located outside California that is
9 connected to the WECC transmission system, if all of the following
10 conditions are met:

11 (1) The electricity generated by the facility is procured by the
12 local publicly owned electric utility, is delivered to the balancing
13 authority area in which the local publicly owned electric utility is
14 located, and is not used to fulfill renewable energy procurement
15 requirements of other states.

16 (2) The local publicly owned electric utility participates in, and
17 complies with, the accounting system administered by the Energy
18 Commission pursuant to this article.

19 (3) The Energy Commission verifies that the electricity
20 generated by the facility is eligible to meet the renewables portfolio
21 standard procurement requirements.

22 (i) Notwithstanding subdivision (a), for a local publicly owned
23 electric utility that is a joint powers authority of districts established
24 pursuant to state law on or before January 1, 2005, that furnish
25 electric services other than to residential customers, and is formed
26 pursuant to the Irrigation District Law (Division 11 (commencing
27 with Section 20500) of the Water Code), the percentage of total
28 kilowatthours sold to the district's retail end-use customers, upon
29 which the renewables portfolio standard procurement requirements
30 in subdivision (b) are calculated, shall be based on the authority's
31 average retail sales over the previous seven years. If the authority
32 has not furnished electric service for seven years, then the
33 calculation shall be based on average retail sales over the number
34 of completed years during which the authority has provided electric
35 service.

36 (j) A local publicly owned electric utility in a city and county
37 that only receives greater than 67 percent of its electricity sources
38 from hydroelectric generation located within the state that it owns
39 and operates, and that does not meet the definition of a "renewable
40 electrical generation facility" pursuant to Section 25741 of the

1 Public Resources Code, shall be required to procure eligible
2 renewable energy resources, including renewable energy credits,
3 to meet only the electricity demands unsatisfied by its hydroelectric
4 generation in any given year, in order to satisfy its renewable
5 energy procurement requirements.

6 (k) (1) A local publicly owned electric utility that receives
7 greater than 50 percent of its annual retail sales from its own
8 hydroelectric generation that is not an eligible renewable energy
9 resource shall not be required to procure additional eligible
10 renewable energy resources in excess of either of the following:

11 (A) The portion of its retail sales not supplied by its own
12 hydroelectric generation. For these purposes, retail sales supplied
13 by an increase in hydroelectric generation resulting from an
14 increase in the amount of water stored by a dam because the dam
15 is enlarged or otherwise modified after December 31, 2012, shall
16 not count as being retail sales supplied by the utility's own
17 hydroelectric generation.

18 (B) The cost limitation adopted pursuant to this section.

19 (2) For the purposes of this subdivision, "hydroelectric
20 generation" means electricity generated from a hydroelectric
21 facility that satisfies all of the following:

22 (A) Is owned solely and operated by the local publicly owned
23 electric utility as of 1967.

24 (B) Serves a local publicly owned electric utility with a
25 distribution system demand of less than 150 megawatts.

26 (C) Involves a contract in which an electrical corporation
27 receives the benefit of the electric generation through June of 2014,
28 at which time the benefit reverts back to the ownership and control
29 of the local publicly owned electric utility.

30 (D) Has a maximum penstock flow capacity of no more than
31 3,200 cubic feet per second and includes a regulating reservoir
32 with a small hydroelectric generation facility producing fewer than
33 20 megawatts with a maximum penstock flow capacity of no more
34 than 3,000 cubic feet per second.

35 (3) This subdivision does not reduce or eliminate any renewable
36 procurement requirement for any compliance period ending prior
37 to January 1, 2014.

38 (4) This subdivision does not require a local publicly owned
39 electric utility to purchase additional eligible renewable energy

1 resources in excess of the procurement requirements of subdivision
2 (c).

3 (l) A local publicly owned electric utility shall retain discretion
4 over both of the following:

5 (1) The mix of eligible renewable energy resources procured
6 by the utility and those additional generation resources procured
7 by the utility for purposes of ensuring resource adequacy and
8 reliability.

9 (2) The reasonable costs incurred by the utility for eligible
10 renewable energy resources owned by the utility.

11 (m) ~~On or before July 1, 2011, the~~ *The Energy Commission*
12 *shall adopt regulations specifying the requirements under this*
13 *article and require local governing boards to adopt timely*
14 *requirements consistent with this article. The Energy Commission*
15 *shall adopt regulations specifying procedures for enforcement of*
16 ~~this article. these requirements, including the adoption of a~~
17 ~~schedule of penalties to be imposed pursuant to subdivision (n).~~
18 The regulations shall include a public process under which the
19 Energy Commission may issue a notice of violation and correction
20 against a local publicly owned electric utility for failure to comply
21 with this ~~article, and for referral of violations to the State Air~~
22 ~~Resources Board for penalties pursuant to subdivision (o). article~~
23 ~~and assess penalties pursuant to subdivision (n).~~

24 (n) ~~(1)~~ Upon a determination by the Energy Commission that
25 a local publicly owned electric utility has failed to comply with
26 this article, the Energy Commission shall ~~refer the failure to comply~~
27 ~~with this article to the State Air Resources Board, which may~~
28 ~~impose penalties to enforce this article consistent with Part 6~~
29 ~~(commencing with Section 38580) of Division 25.5 of the Health~~
30 ~~and Safety Code. Any penalties imposed shall be comparable to~~
31 those adopted by the commission for noncompliance by retail
32 sellers. ~~Any penalties collected under this article shall be deposited~~
33 ~~into the Electric Program Investment Charge Fund and used for~~
34 ~~the purposes described in Chapter 8.1 (commencing with Section~~
35 ~~25710) of Division 15 of the Public Resources Code.~~

36 ~~(2) If Division 25.5 (commencing with Section 38500) of the~~
37 ~~Health and Safety Code is suspended or repealed, the State Air~~
38 ~~Resources Board may take action to enforce this article on local~~
39 ~~publicly owned electric utilities consistent with Section 41513 of~~
40 ~~the Health and Safety Code, and impose penalties on a local~~

1 ~~publicly owned electric utility consistent with Article 3~~
2 ~~(commencing with Section 42400) of Chapter 4 of Part 4 of, and~~
3 ~~Chapter 1.5 (commencing with Section 43025) of Part 5 of,~~
4 ~~Division 26 of the Health and Safety Code.~~

5 ~~(3) For the purpose of this subdivision, this section is an~~
6 ~~emissions reduction measure pursuant to Section 38580 of the~~
7 ~~Health and Safety Code.~~

8 ~~(4) If the State Air Resources Board has imposed a penalty upon~~
9 ~~a local publicly owned electric utility for the utility’s failure to~~
10 ~~comply with this article, the State Air Resources Board shall not~~
11 ~~impose an additional penalty for the same infraction, or the same~~
12 ~~failure to comply, with any renewables procurement requirement~~
13 ~~imposed upon the utility pursuant to the California Global Warming~~
14 ~~Solutions Act of 2006 (Division 25.5 (commencing with Section~~
15 ~~38500) of the Health and Safety Code).~~

16 ~~(5) Any penalties collected by the State Air Resources Board~~
17 ~~pursuant to this article shall be deposited in the Air Pollution~~
18 ~~Control Fund and, upon appropriation by the Legislature, shall be~~
19 ~~expended for reducing emissions of air pollution or greenhouse~~
20 ~~gases within the same geographic area as the local publicly owned~~
21 ~~electric utility.~~

22 ~~(e) The commission has no authority or jurisdiction to enforce~~
23 ~~any of the requirements of this article on a local publicly owned~~
24 ~~electric utility.~~

25 SEC. 14. Article 17 (commencing with Section 400) is added
26 to Chapter 2.3 of Part 1 of Division 1 of the Public Utilities Code,
27 to read:

28
29 Article 17. Clean Energy and Pollution Reduction
30

31 400. The commission and the Energy Commission shall do all
32 of the following in furtherance of meeting the state’s clean energy
33 and pollution reduction objectives:

34 (a) Take into account the benefits of distributed generation and
35 promote the use of distributed generation where it provides
36 economic and environmental benefits, particularly in disadvantaged
37 communities as identified pursuant to Section 39711 of the Health
38 and Safety Code.

39 (b) Allow for consideration of costs and benefits of grid
40 integration in proceedings associated with meeting the objectives.

1 (c) Where feasible, adopt rules for integrating renewable energy
2 that minimize system power and fossil fuel purchases and, where
3 feasible and consistent with other state policy objectives, increase
4 the use of energy storage, demand response, and other
5 low-emission or zero- technologies to protect system reliability.

6 (d) Review technology incentive programs overseen by the
7 commission and the Energy Commission and make
8 recommendations for adjustments that more effectively and
9 consistently align with state clean energy and pollution reduction
10 objectives, and that provide benefits to disadvantaged communities
11 as identified pursuant to Section 39711 of the Health and Safety
12 Code.

13 (e) To the extent feasible, give first priority to the manufacture
14 and deployment of clean energy and pollution reduction
15 technologies that create employment opportunities, including high
16 wage, highly skilled employment opportunities, and increased
17 investment in the state.

18 SEC. 15. Section 454.51 is added to the Public Utilities Code,
19 to read:

20 454.51. The commission shall direct each electrical corporation
21 to include in its proposed procurement plan a strategy for procuring
22 a diverse portfolio of resources that provide a reliable electricity
23 supply, including renewable energy integration needs, using zero
24 carbon-emitting resources to the maximum extent reasonable. The
25 net capacity costs of those resources shall be allocated on a fully
26 nonbypassable basis consistent with the treatment of costs
27 identified in paragraph (2) of subdivision (c) of Section 365.1.

28 SEC. 16. No reimbursement is required by this act pursuant to
29 Section 6 of Article XIII B of the California Constitution because
30 a local agency or school district has the authority to levy service
31 charges, fees, or assessments sufficient to pay for the program or
32 level of service mandated by this act or because costs that may be
33 incurred by a local agency or school district will be incurred
34 because this act creates a new crime or infraction, eliminates a
35 crime or infraction, or changes the penalty for a crime or infraction,
36 within the meaning of Section 17556 of the Government Code, or
37 changes the definition of a crime within the meaning of Section 6
38 of Article XIII B of the California Constitution.

O

ATTACHMENT 3

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

LEGISLATIVE REPORT FROM HOME RULE ADVISORY GROUP MEETING OF MARCH 11, 2015

HRAG members present:

Dr. Joseph Lyou, Chairman

Elaine Chang, SCAQMD

Mike Carroll, Latham & Watkins on behalf of the Regulatory Flexibility Group

Curt Coleman, Southern California Air Quality Alliance

Chris Gallenstein, CARB (participated by phone)

Bill LaMarr, California Small Business Alliance

Art Montez, AMA International

Diane Moss, Renewables 100 Policy Institute

Rongsheng Luo, SCAG (participated by phone)

Bill Quinn, CCEEB (participated by phone)

Terry Roberts, American Lung Association of California (participated by phone)

David Rothbart, Los Angeles County Sanitation Districts

Larry Rubio, Riverside Transit Agency (participated by phone)

Larry Smith, Riverside Cement

TyRon Turner, We Care About You

Lee Wallace, So Cal Gas and SDG&E

Mike Wang, WSPA

Others: Mark Abramowitz (Board Consultant to Dr. Lyou); Daniel McGivney (SoCalGas/SDG&E); Susan Stark (Tesoro); Shelby Livingston, Scott King, and Patrick Au (CARB) by phone.

AQMD Staff: Jill Whynot, Bill Wong, and Marilyn Traynor

LEGISLATIVE UPDATE

Dr. Lyou reviewed the following items that are scheduled to be discussed at the Legislative Committee meeting on Friday, March 13, 2015:

Bills	Description	Legislative Committee's Recommended Action
<i>AB 335 (Patterson)</i>	Air quality: minor violations.	Oppose
<i>AB 678 ()'Donnell)</i>	Greenhouse gases: Energy Efficient Ports Program.	Support with amendments
<i>SB 350 (de León/Leno)</i>	Clean Energy and Pollution Reduction Act of 2015	Monitor

AB 335 (Patterson)

This bill would require CARB and air pollution control and air quality management districts to adopt regulations classifying minor violations. The bill would define the term “notice to comply” and would require a representative of those agencies, who in the course of conducting an inspection detects a minor violation, to issue a notice to comply, as specified.

AB 678 ()’Donnell)

This bill would require the state board, in conjunction with the State Energy Resources Conservation and Development Commission, to develop and implement the Energy Efficient Ports Program to fund energy efficiency upgrades and investments at public ports. SCAQMD staff is recommending amendments to include greenhouse gases, criteria pollutants, and toxics. Another suggested amendment is to require installation of cold iron or shore power infrastructure compatible with AMECS technology.

SB 350 (de León/Leno)

This bill would express the intent of the Legislature for the purposes of the RPS program that the amount of electricity generated per year from eligible renewable energy resources be increased to an amount equal to at least 50% by December 31, 2030, and would require the PUC, by January 1, 2017, to establish the quantity of electricity products from eligible renewable energy resources be procured by each retail seller for specified compliance periods sufficient to ensure that the procurement of electricity products from eligible renewable energy resources achieves 50% of retail sales by December 31, 2030. In addition, this bill includes provisions supporting efforts to achieve a 50% reduction in petroleum use by January 1, 2030, and requires the CEC to develop and update a program that seeks to double energy efficiency in buildings by January 1, 2030.

Discussion

Mr. LaMarr asked what the ground rules are for issuing a Notice to Comply. Jill Whynot responded that generally Notices of Violation are emissions related whereas Notices to Comply are for administrative issues such as records requests. Mr. LaMarr asked if Notices to Comply are included in the FIND Program. Ms. Whynot responded that FIND includes Notices to Comply as well as Notices of Violation. Some Notices to Comply eventually result in Notices of Violation if the recipient does not comply with the request.

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 22

REPORT: Mobile Source Committee

SYNOPSIS: The Mobile Source Committee met on Friday, April 17, 2015. Following is a summary of that meeting. The next Mobile Source Committee meeting is scheduled for Friday, May 15, 2015 at 9:00 a.m.

RECOMMENDED ACTION:
Receive and file.

Dr. Clark E. Parker, Sr., Chair
Mobile Source Committee

EC: PMF: afm

Attendance

Committee Chair Dr. Clark E. Parker, Sr. attended via teleconference; Committee Member Ben Benoit attended via videoconference; Committee Members Dr. Joseph Lyou and Judith Mitchell attended the meeting at the SCAQMD Diamond Bar headquarters.

Due to technical difficulties connecting with Dr. Parker via videoconference, Vice Chair Dr. Lyou called the meeting to order at 9:08 a.m.

The following items were presented:

INFORMATIONAL ITEMS:

2) PM 2.5 and VOC White Papers

Dr. Philip Fine, Assistant Deputy Executive Officer/Planning, Rule Development & Area Sources, provided a summary of the VOC and PM Control White Papers, which are 2 of 10 such papers being developed in advance of the 2016 AQMP. He

emphasized the findings for both papers; the need for a NO_x heavy strategy with prioritized, limited and focused VOC and PM reductions, to meet both the 8-hour ozone and annual PM_{2.5} standards. Staff is currently receiving comments from the White Paper Working Groups and AQMP Advisory Group.

[Dr. Parker joined the meeting and resumed chairing duties via teleconference at 9:13 a.m.]

Mayor Ben Benoit noted that the takeaway from the presentation is that there is much work to be done. Dr. Joseph Lyou stated, relative to the charts presented, that there are health consequences for even small, temporary increases in ozone levels and wondered if the path to clean air could be guided by the potential health impacts, to which Dr. Fine stated that the VOC White Paper has a spatial analysis for the increase in ozone, but that weighted population health impacts would need further examination. Regarding the models used for the study, Dr. Lyou asked if they were going to change or be updated. Dr. Fine stated that the models, methods and inventory were based on the 2012 AQMP, but that these will all be updated for the 2016 AQMP. Dr. Lyou also stated he had received complaints that the White Papers were difficult to find on the SCAQMD web page and that the schedule of meetings was not accurate and this was echoed by several of the Committee members. Dr. Fine stated that there were some glitches in postings this week, and that the situation is being corrected. Dr. Clark Parker, requested clarification of the chart that showed increased ozone exposure relative to a NO_x-only approach, to which Dr. Fine responded it would depend on the level of VOC control achieved.

Under public comment, Mr. Bill Lamar, Executive Director of the Small Business Alliance, commented regarding the White Paper Working Group process, and stated that there had been too few meetings, wondered if the level of input received from members would be included in the documents and questioned why there were no specific control measures. Dr. Elaine Chang, Deputy Executive Officer/Planning, Rule Development & Area Sources, stated that the papers are intended for highlighting potential policy directions for the 2016 AQMP and not to propose specific control measures.

3) Update on the ITE Study to Enhance Vehicle Trip Information Associated with Large Warehouse Operations

Mr. Henry Hogo, Assistant Deputy Executive Officer/Science & Technology Advancement, provided an update on the progress in developing a workplan to conduct studies to quantify and update trip-generation information for various warehouse development projects. A contract with the Institute of Transportation Engineers (ITE) was approved by the SCAQMD Board in November 2014 to co-sponsor the study in partnership with NAIOP. ITE convened a 16-member expert

panel consisting of representatives from the warehouse industry, academia, and transportation planners, private consultants, the U.S. Department of Transportation, Federal Highway Administration, SCAQMD staff, and ITE staff. The Panel discussed a variety of topics including defining different warehouse types by activity (traditional warehousing, transloading operations, cold storage, fulfillment centers /e-commerce), and parcel delivery hubs; types of vehicles that operate out of warehouses; land use and variables that affect warehouse operations; data needs and gaps; potential funding partners; and the schedule for developing the workplan. The workplan will be drafted over the next several months for the Panel's review and is anticipated to be completed by mid-summer. The workplan will scope out the approach to study one warehouse type and develop trips associated with the warehouse. The study may take over a year to complete given the seasonality of the activities at the warehouse. The goal will be to repeat the study for the various warehouse types defined at the meeting.

Dr. Parker commented that we are in a different era relative to warehouse activity given the greater e-commerce activities and asked whether there are considerations on the seasonality relationship of these activities since increased distribution-center activities are occurring earlier in the year and may potentially impact summertime ozone air quality. Mr. Hogo indicated that the Panel members spent some time discussing this. One of the Panel members indicated that they are now conducting year-long surveys to get at the seasonality issue.

Dr. Lyou commented that the study will be very helpful and the study will be based on fact and science that will help answer the empirical questions we have. Dr. Lyou indicated that at some point we would want to look at the trips saved as well as the trips generated, given that e-commerce can potentially result in fewer trips to stores. Ms. Barbara Baird, Chief Deputy Counsel, commented that the study is timely since in this month's CEQA commenting log, it reports that staff has commented on or is reviewing warehouse-related projects that total over 3.3 million square feet.

Dr. Parker commented that Supervisor Shawn Nelson had sent him the ITE manual. Dr. Parker indicated that after looking through the manual, he could not find any trip generation information related to the types of warehouse activities that we are considering now. Dr. Parker indicated that with the number of trucks that operate at warehouses, we may need to consider use of cleaner trucks to help mitigate the air quality problem.

Mr. Peter Herzog, NAIOP, agreed that the meeting of the Expert Panel was constructive and positive. Mr. Herzog commented that the framework for the study should serve as a model for impact assessment that can be used in the long term. Mr. Herzog also commented that there are discussions of impacts and that it may be premature to discuss such at this time. Some of the warehouse operations are more

efficient and there are a lower number of trucks per square foot today. In addition, truck emissions have decreased with the use of newer trucks. He indicated that other environmental and socioeconomic impacts need to be considered. He looks forward to working with the SCAQMD on the study.

1) Historical Rideshare Trend & SCAG's Planning and Policy on TOD

Ms. Huasha Liu, Director of Land Use and Environmental Planning Division at the Southern California Association of Governments (SCAG), presented on the historical rideshare trend in the region and SCAG's planning and policy approaches on transit-oriented development (TOD). The latter part of Ms. Liu's presentation addressed Supervisor Nelson's concerns at the March 2015 Mobile Source Committee meeting. The historical information of commuting shows an increase in driving alone and a decrease in carpooling from 1980 to 2010. Possible explanations for this trend are that job locations are much more spread out and baby boomers have higher incomes and thus higher car ownership rates.

Dr. Parker commented that the percentage of people working from home has dramatically increased. Ms. Liu responded that there has been an increase of home-based small businesses, and that technology developments over the past 30 years have provided a greater opportunity for residents to work from home. Dr. Parker noted that one of Supervisor Nelson's concerns is the location of transit systems relative to homes and places of work. Dr. Lyou clarified that the concern is that the transportation development is not happening where the work locations are, and added that the focus should be on the employee's destination and not their residence. Ms. Liu referred to slide 10 of the presentation and explained that a greater share of jobs are already located in TOD and High-Quality Transit Areas (HQTA) areas relative to the share of households today, and will be even more so in the future.

Councilmember Judith Mitchell commented that there is already a fairly large percentage of jobs at TOD areas. She inquired whether we are focusing enough on where job centers are already located when we do our metropolitan planning, for example for SB 375 requirements. Councilmember Mitchell suggested that since planning is projected into 2035, it is important to continue focusing public transit on where people need to go for their final destination.

Dr. Lyou suggested that this information could be very informative and helpful to be included as part of the Board Retreat.

WRITTEN REPORTS:

4) Rule 2202 Activity Report

The report was received as submitted.

5) Monthly Report on Environmental Justice Initiatives – CEQA Document Commenting Update

The report was received as submitted.

OTHER BUSINESS:

Dr. Lyou announced that this meeting would be Elaine Chang's last Mobile Source Committee meeting before her retirement. He, along with Dr. Parker and other Committee Members, expressed their appreciation for Elaine's service and contributions.

PUBLIC COMMENT:

None

The meeting was adjourned at 10:53 a.m.

Attachment

Attendance Roster

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
MOBILE SOURCE COMMITTEE MEETING
Attendance Roster- April 17, 2015**

NAME	AFFILIATION
Dr. Clark E. Parker, Sr.	SCAQMD Governing Board (<i>via teleconference</i>)
Dr. Joseph Lyou	SCAQMD Governing Board
Mayor Ben Benoit	SCAQMD Governing Board (<i>via videoconference</i>)
Councilmember Judith Mitchell	SCAQMD Governing Board
Board Consultant Mark Abramowitz	SCAQMD Governing Board (Lyou)
Board Consultant Chung Liu	SCAQMD Governing Board (Mitchell)
Curtis Coleman	SoCal Air Quality Alliance
Sue Gornick	WSPA
Daniel Kopulsky	Caltrans, District 7
Bill LaMarr	California Small Business Alliance
Rongsheng Luo	SCAG
Huasha Liu	SCAG
Clayton Miller	CIAQC
Noel Muyco	SoCal Gas
David Rothbart	Los Angeles County Sanitation Districts
Andy Silva	SB County
Susan Stark	Tesoro
Lee Wallace	SoCal Gas
Tara Tisopulos	ECS on behalf of OCTA
Elaine Chang	SCAQMD Staff
Philip Fine	SCAQMD Staff
Barbara Baird	SCAQMD Staff
Kurt Wiese	SCAQMD Staff
Matt Miyasato	SCAQMD Staff
Henry Hogo	SCAQMD Staff
Naveen Berry	SCAQMD Staff
Joe Cassmassi	SCAQMD Staff
Tina Cox	SCAQMD Staff
Carol Gomez	SCAQMD Staff

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 23

REPORT: Stationary Source Committee

SYNOPSIS: The Stationary Source Committee met Friday, April 17, 2015. Following is a summary of that meeting.

RECOMMENDED ACTION:
Receive and file.

Dennis Yates, Chair
Stationary Source Committee

MN:am

Attendance

The meeting began at 10:55 a.m. In attendance at SCAQMD Headquarters were Committee Members Dennis Yates, Dr. Joseph Lyou and Judith Mitchell. Ben Benoit attended via videoconference. Absent was Shawn Nelson.

INFORMATIONAL ITEMS

1. Rule 1156 – Further Reductions of Particulate Emissions from Cement Manufacturing Facilities

Dr. Philip Fine, Assistant Deputy Executive Officer of Planning and Rules, gave the staff presentation. He provided a summary of proposed amended rule concepts designed to address the 2009 Board resolution to evaluate the need for and frequency of monitoring after five years, and to address provisions for facility closure. Public comments were made by Mr. Jay Grady, Director of Environmental Affairs for California Portland Cement Company (CPCC), and Mr. Michael Meinen of Riverside Cement Company. Both gentlemen stated they only recently received the proposed rule language and preliminary draft staff report and requested an additional 60 days to work with staff on their comments. Councilmember Mitchell asked for staff's response, to which Dr. Fine stated that given that there is no Board Meeting in August, the proposed delay would actually be a 90-day delay to

September 2015. When asked if there were any significant impacts associated with a delay, staff responded there were none at this time. As such, the Committee recommended allowing the extra time to work with the affected facilities. Dr. Lyou asked if staff had spoken to the California Department of Toxic Substances Control regarding the toxicity of the soils and that we should be engaged with them on this matter. Dr. Fine stated they are on the Working Group for the rule amendments. Mayor Yates asked what happens if CPCC started their kilns for clinker production and Mr. Mohsen Nazemi, Deputy Executive Officer for Engineering and Compliance, stated that their permits are still active although they have submitted requests for emission reduction credits for the kilns and other operations.

2. Rule 1148.1 – Oil and Gas Production Wells

Mr. Naveen Berry, Planning and Rules Manager, provided an update on the development of Proposed Amended Rule 1148.1 – Oil and Gas Production Wells. Dr. Tom Williams, representing Sierra Club and others, commented that although Rule 1148.1 has worked well, they have some concerns with Rule 1148.1 and the proposed rule should include additional definitions and clarifications to define scope. He also requested that additional requirements should apply to facilities that are even closer to sensitive receptors (i.e. less than 500 feet), including lower triggers for specific cause analysis requirements and more rapid dissemination of complaint related data. Ms. Sandra Burkhart, Western States Petroleum Association (WSPA), stated that historical compliance with current Rule 1148.1 is high and reiterated a request for complaint data to support the proposed amendment. She further requested that a socioeconomic assessment and CEQA analysis be part of the proposal and that the requirements under the proposed odor mitigation plan (OMP), including the extended proximity threshold from 100 meters to 1,500 feet (323 meters) were not feasible due to costs and equipment availability, that lowering the odor nuisance threshold from six to three complaints is overly burdensome, and that WSPA would be submitting written comments. Dr. Lyou stated that he has experienced firsthand the difficulties in reporting and mitigating odors through the SCAQMD complaint system and also referred to a couple of comment letters from the Stand Together Against Neighborhood Drilling (STAND) coalition, which requested that all facilities be subjected to an OMP, suggesting that the SCAQMD might want to consider a compromise position to lower the trigger for obtaining an OMP for facilities within a shorter distance than 1,500 feet. Mr. Berry, responding to Dr. Lyou and questions from Councilmember Mitchell, clarified that a CEQA analysis would be part of the draft documents and that because the proposal is focused on reducing odor nuisance potential that associated emission reduction potential would be concurrent, and that staff would consider the feedback from the commenters. Mr. Nazemi distributed the two letters from STAND, dated February 6, 2015 and April 12, 2015 to the Board Members and others present at this meeting.

3. Rule 1148.2 – Notification and Reporting Requirements for Oil and Gas Wells and Chemical Suppliers

Ms. Susan Nakamura, Planning and Rules Director, presented a summary report for Proposed Amended Rule 1148.2. The SCAQMD staff is proposing a narrow modification to the chemical reporting requirements in the rule so they will be consistent with state regulations. The California Department of Conservation, through its Division of Oil, Gas, and Geothermal Resources (DOGGR), has adopted well stimulation treatment regulations in response to the passage of Senate Bill (SB) 4 (approved by the Governor on September 20, 2013). The regulations were finalized in December 2014 and become effective on July 1, 2015. However, DOGGR has implemented similar interim regulations that are currently in effect. PAR 1148.2 will: 1) disaggregate the reporting of the trade name product from the chemical ingredients within the product; 2) no longer require the reporting of chemical mass maximum concentration within the trade name product, and instead require the maximum concentration in percent by mass within the total well drilling, well rework, and well completion fluid; and, 3) make available to the public all of the well stimulation information deemed not to be trade secret under SB 4 on the SCAQMD's website. Additional minor changes to rule language have been made for clarity and consistency. The proposed amended rule will continue to require the reporting of specific information not required under SB 4 and DOGGR's reporting structure.

Dr. Tom Williams of the Sierra Club/Citizen Coalition for a Safe Community wanted PAR 1148.2 to require the operators to monitor and analyze emissions from gaseous chemicals which are claimed as trade secret, and made available to the public. Ms. Nakamura indicated that staff is going to return to the Committee in the May/June timeframe and report staff's findings and recommendations for further changes to the rule.

4. Amend Rules 212, 1401, 1401.1 and 1402

Ms. Nakamura provided a summary of the proposed amendments to Rule 212 – Standards for Approving Permits and Issuing Public Notice, Rule 1401 – New Source Review of Toxic Air Contaminants, Rule 1401.1 – Requirements for New and Relocated Facilities Near Schools, and Rule 1402 – Control of Toxic Air Contaminants from Existing Sources. The rules provide the framework for protecting public health from air toxic emissions. The proposed amendments will revise definitions and risk assessment procedures to implement the Revised OEHHA Guidelines regarding how health risks are calculated.

Mr. Curt Coleman, Southern California Air Quality Alliance, stated that he wants the Board to have the ability to adjust the risk thresholds in the rule. Mr. Coleman commented that the highest annual costs are associated with risk reduction requirements under Rule 1402, and requested that staff conduct a sensitivity analysis

to determine the socioeconomic impacts of relaxing the risk thresholds. Dr. Lyou suggested that if staff conducts a sensitivity analysis of relaxing the risk thresholds for risk reduction, staff should also assess the effect of strengthening the risk thresholds.

Mr. David Rothbart, Southern California Publicly Owned Treatment Works, relayed his concerns about public notifications and urged that staff pay careful attention to the messaging included in public notifications. He also requested that additional time be included in the proposed rules for facilities that commit to risk reductions. Dr. Tom Williams, Sierra Club, asked if there is any synergy between PM1.0 emissions and NOx, CO or other criteria or toxic emissions. He recommended that staff look into regulating nano-particulates. Mayor Yates said that staff is already looking into that issue. Dr. Lyou commented that equal protection under the law should be considered when recommending carve-outs for industry segments.

WRITTEN REPORTS

All written reports were acknowledged by the Committee.

PUBLIC COMMENTS

Dr. Tom Williams made a comment on whether SR-710 operations related to covering part of the freeway and venting it to a scrubber should be considered a stationary source and be required to meet stationary source limits. Ms. Barbara Baird, Chief Deputy Counsel, responded that the SCAQMD is looking into this and is considering whether it could be treated as a stationary source.

Mayor Yates announced that the next Stationary Source Committee meeting is scheduled for May 15, 2015 and adjourned the meeting at 12:10 p.m.

Attachments

Attendance Roster

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
STATIONARY SOURCE COMMITTEE
April 17, 2015
ATTENDANCE ROSTER (Voluntary)**

NAME	AFFILIATION
Mayor Dennis Yates	SCAQMD Governing Board
Dr. Joseph Lyou	SCAQMD Governing Board
Mayor Ben Benoit (VT)	SCAQMD Governing Board
Councilmember Judith Mitchell	SCAQMD Governing Board
Board Consultant Andy Silva	SCAQMD Governing Board (Rutherford)
Mohsen Nazemi	SCAQMD staff
Dr. Philip Fine	SCAQMD staff
Elaine Chang	SCAQMD staff
Kurt Wiese	SCAQMD staff
Barbara Baird	SCAQMD staff
Susan Nakamura	SCAQMD staff
Naveen Berry	SCAQMD staff
Jill Whynot	SCAQMD staff
Bill Wong	SCAQMD staff
Jean Ospital	SCAQMD staff
Alisa Moretto	Inland Empire Energy Center
Bill LaMarr	California Small Business Alliance
Rita Loof	RadTech
Vlad Kogan	Orange County Sanitation District
Jay Grady	Cal Portland
David Rothbart	LA County Sanitation District
Michael Meinen	Riverside Cement Company
Sandra Burkhart	WSPA

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
STATIONARY SOURCE COMMITTEE
April 17, 2015
ATTENDANCE ROSTER (Voluntary)**

NAME	AFFILIATION
Clayton Miller	Construction Industry Air Quality Coalition
Peter Whittingham	Curt, Pringle & Associates
Tom Williams	Citizen Coalition Safe Community
Susan Stark	Tesoro
Sue Gornick	WSPA

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 24

REPORT: Technology Committee

SYNOPSIS: The Technology Committee met on April 17, 2015. Major topics included Technology Advancement items reflected in the regular Board Agenda for the May Board meeting. A summary of these topics with the Committee's comments is provided. The next Technology Committee meeting will be held on May 15, 2015.

RECOMMENDED ACTION:
Receive and file.

John J. Benoit
Technology Committee Chair

MMM:pmk

Attendance: Supervisor John J. Benoit and Mayor Miguel Pulido participated by videoconference. Councilmember Judith Mitchell and Mayor Dennis Yates were in attendance at SCAQMD headquarters. Councilmember Joe Buscaino observed a portion of the meeting from a non-noticed teleconference location. Supervisor Janice Rutherford was absent due to a conflict with her schedule.

MAY BOARD AGENDA ITEMS

1. Develop and Demonstrate Fuel Cell Hybrid Electric Medium-Duty Trucks 

The Center for Transportation and the Environment (CTE) was awarded \$2,982,071 by DOE and \$1,100,000 by CEC to develop and demonstrate fuel cell hybrid electric medium-duty trucks. CTE and their partner UPS propose to demonstrate up to six trucks in Los Angeles and Orange counties. This action is to execute a contract with CTE to develop and demonstrate fuel cell hybrid electric medium-duty trucks in an amount not to exceed \$980,000 from the Clean Fuels Fund (31).

Moved by Pulido; seconded by Yates; unanimously approved.

2. Execute Contract to Construct, Operate and Maintain Fast-Fill Public Access CNG Fueling Station at SCAQMD Headquarters and Authorize Property Usage Agreement 

On December 6, 2014, the Board issued an RFP to solicit bids for an independent contractor to upgrade, operate and maintain a fast-fill public access CNG fueling station at SCAQMD Headquarters. Two bids were received that would meet current and future CNG fueling needs for the SCAQMD's natural gas fleet and the public. Staff recommends an award to the lowest-cost qualified bidder. This action is to execute a contract as well as a property usage agreement with FirstCNG, LLC for a five-year term, with a renewal option for an additional five years. This action is to also augment the existing contract at a cost not to exceed \$75,000 with Trillium CNG to continue operating and maintaining the existing station. Additionally, existing CNG fueling station equipment will be surplussed and any residual value received into the Fast-Fill CNG Fueling Station Enterprise Fund (71).

Supervisor Benoit expressed that the SCAQMD CNG station should be more visible to the public and that posting a sign on the street is a good start, but he would like the station itself to assume more of a presence than it has now in its current location. The Committee members suggested increased signage as one form of increasing visibility. Mayor Yates also suggested retaining the current location for District vehicles and locating a single dispenser station on a more visible and more accessible part of the property. Dr. Miyasato indicated that staff would investigate the options and provide the Chair with their evaluation.

Moved by Yates; seconded by Mitchell; unanimously approved with direction to staff to have further discussion with the Executive Officer and Chair about relocating the station.

3. Other Business

There was no public comment.

4. Public Comment Period

There was no public comment.

Next Meeting: May 15, 2015

Attachment

Attendance

Attachment – Attendance

Supervisor John J. Benoit	SCAQMD Governing Board (via VT)
Councilmember Judith Mitchell	SCAQMD Governing Board
Mayor Miguel Pulido.....	SCAQMD Governing Board (via VT)
Mayor Dennis Yates	SCAQMD Governing Board
Mark Abramowitz.....	Board Consultant (Lyou)
Buford Crites	Board Consultant (JBenoit)
Andrew Silva	Board Consultant (Rutherford)
Bob Ulloa.....	Board Consultant (Yates)
John Olvera, Principal Deputy District Counsel	SCAQMD
Mike O’Kelly, FIN	SCAQMD
Matt Miyasato, STA	SCAQMD
Henry Hogo, STA.....	SCAQMD
Fred Minassian, STA	SCAQMD
Dean Saito, STA	SCAQMD
Phil Barroca, STA.....	SCAQMD
Drue Hargis, STA	SCAQMD
Lisa Mirisola, STA	SCAQMD
Robert Paud, IM	SCAQMD
Isabel Aguilar, STA	SCAQMD
Pat Krayser, STA.....	SCAQMD
Danielle Robinson	ARB
David Gerst.....	Clean Fuel Connection
Mark Taylor	County of San Bernardino
Susan Stark	Tesoro
Sue Gornick	WSPA

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BOARD MEETING DATE: May 1, 2015

AGENDA NO. 25

REPORT: Mobile Source Air Pollution Reduction Review Committee

SYNOPSIS: Below is a summary of key issues addressed at the MSRC's meeting on April 16, 2015. The next meeting is scheduled for Thursday, May 21, 2015, at 2:00 p.m., in Conference Room CC8.

RECOMMENDED ACTION:
Receive and file.

Michael D. Antonovich
SCAQMD Representative on MSRC

MMM:HH:AP

Meeting Minutes Approved

The MSRC unanimously approved the minutes from its January 15, 2015 and March 19, 2015 meetings. Those approved minutes are attached for your information (*Attachments 1 and 2, respectively*). At the April 16, 2015 meeting, the MSRC ratified the recommendations taken at its March 19, 2015 meeting, which were taken by a committee of the whole due to the lack of a quorum. [The recommendations taken on March 19, 2015 were summarized in the committee report provided to the SCAQMD Board at its April 3, 2015 meeting and included in Attachment 2.]

Reprise of Rideshare Thursday Public Awareness Campaign

The MSRC discussed the reprise of the Rideshare Thursday Public Awareness Campaign with a sole-source award to Fraser Communications. Michael Cacciotti, Councilmember, City of South Pasadena, and SCAQMD Board Member, suggested new ideas that could be included, such as, Active Transportation, the new Gold Line, and Uber. The MSRC requested that this item be postponed for one month to allow staff more time to explore the different options available. District Counsel also asked for more time to review the previous RFP with the second-year option.

MSRC Programmatic Outreach Services

For the last several years the MSRC has retained a consultant to provide programmatic outreach services. The current consultant contract expires December 30, 2015. The

MSRC approved release of a new RFP to solicit proposals for programmatic outreach services from January 2016 through December 2017. The RFP will provide an option clause to allow the MSRC to exercise a contract extension for one additional two-year term for the chosen consultant, as prior RFPs and consultants have done. Any additional funding to accompany the option for additional time will be brought forward to the MSRC and SCAQMD Board for consideration. The target funding for this RFP is \$120,000 under the FYs 2014-16 Work Program. The RFP proposal period commences May 1, 2015 and closes June 17, 2015. It is anticipated that the MSRC will consider an award at its August 20, 2015 meeting, and the SCAQMD Board at its September 4, 2015 meeting. The SCAQMD Board will consider issuance of the RFP at its May 1, 2015 meeting.

Approval of Expenditures from MSRC Travel Budget

The MSRC approved MSRC-TAC Member—and former MSRC Member—Earl Withycombe’s request to attend the May 2015 MSRC meeting in Diamond Bar in person. This will facilitate and coordinate the transition to a new MSRC member from his member agency, the California Air Resources Board (CARB), and to receive training from MSRC and consultant in MSRC-TAC subcommittee activities and responsibilities. This will enhance CARB’s participation in the work program development process. The MSRC’s FY 2014-15 Administrative Budget includes \$2,500 for travel costs. The MSRC approved reimbursement of Mr. Withycombe’s travel expenditures in an amount not to exceed \$325.

Received and Approved Final Reports

The MSRC received and unanimously approved eight final report summaries this month as follows:

1. California State University, Los Angeles, Contract #MS07022, which provided \$250,000 for the construction of a hydrogen fueling station;
2. Clean Energy Fuels Corporation, Contract #MS08056, which provided \$400,000 towards the construction of a new CNG station in Long Beach;
3. Clean Energy Fuels Corporation, Contract #MS08061, which provided \$400,000 towards the construction of a new CNG station in Los Angeles;
4. Clean Energy Fuels Corporation, Contract #MS08066, which provided \$400,000 towards the construction of a new CNG station at Palm Springs Airport;
5. Clean Energy Fuels Corporation, Contract #MS08070, which provided \$400,000 towards the construction of a new CNG station in Paramount;
6. Clean Energy Fuels Corporation, Contract #MS08072, which provided \$400,000 towards the construction of a new CNG station in Burbank;
7. Clean Energy Fuels Corporation, Contract #MS08073, which provided \$400,000 towards the construction of a new CNG station in Norwalk; and
8. Anaheim Transportation Network, Contract #MS12064, which provided \$127,296 for the Implementation of an Anaheim Circulator Service.

Contracts Administrator's Report

The MSRC's AB 2766 Contracts Administrator provides a written status report on all open contracts from FY 2004-05 through the present. The Contracts Administrator's Report for April 2015 is attached (*Attachment 3*) for your information.

Attachments

Attachment 1 – Approved January 15, 2015 Meeting Minutes

Attachment 2 - Approved March 19, 2015 Meeting Minutes

Attachment 3 – April 2015 Contracts Administrator's Report



**MOBILE SOURCE AIR POLLUTION REDUCTION REVIEW COMMITTEE
THURSDAY, JANUARY 15, 2015 MEETING MINUTES**

21865 Copley Drive, Diamond, Bar, CA 91765- Conference Room CC-8

MEMBERS PRESENT:

(Vice Chair) Larry McCallon, representing SANBAG
Michael Antonovich, representing SCAQMD (via v/c)
Ben Benoit (Alt.), representing SCAQMD
Michele Martinez, representing SCAG
April McKay (Alt.), representing LA County MTA (via v/c)
Adam Rush (Alt.), representing RCTC
Tim Shaw (Alt.) representing OCTA
Steve Veres, rep. LA County MTA (via v/c)
Greg Winterbottom, representing OCTA
Earl Withycombe, representing CARB (via v/c)

MSRC MEMBERS ABSENT:

(Chair) Greg Pettis, rep. RCTC

MSRC-TAC MEMBERS PRESENT:

Rongsheng Luo (Alt.), representing SCAG
Kelly Lynn, representing San Bernardino Associated Governments

OTHERS PRESENT:

Mike Diamond, Mike Diamond/Phace Management Services
Lauren Dunlap, SoCalGas
Edwin Harte, SoCalGas
Ric Teano, OCTA

SCAQMD STAFF & CONTRACTORS

Ray Gorski, MSRC Technical Advisor-Contractor
John Kampa, Financial Analyst
Matt MacKenzie, MSRC Contracts Assistant
Ana Ponce, MSRC Administrative Liaison
Cynthia Ravenstein, MSRC Contracts Administrator
Veera Tyagi, Senior Deputy District Counsel
Rachel Valenzuela, MSRC Contracts Assistant
Paul Wright, Audio-Visual Specialist

CALL TO ORDER

- Call to Order

MSRC Vice Chair Larry McCallon called the meeting to order at 2 p.m. in the absence of MSRC Chair Greg Pettis.

- Opening Comments:
There were no opening comments.

PUBLIC COMMENT PERIOD

Public comments were allowed during the discussion of each agenda item. No comments were made on non-agenda items.

CONSENT CALENDAR (Items 1 through 6)**Receive and Approve Items****Agenda Item #1 – Minutes of the November 20, 2014, MSRC Meeting**

The minutes of the November 20, 2014, MSRC meeting were provided under separate cover at the meeting.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND
SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER
APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE
MSRC VOTED UNANIMOUSLY TO APPROVE THE NOVEMBER 20,
2014 MSRC MEETING MINUTES.

AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY,
MCCALLON, RUSH, BENOIT.

NOES: NONE.

ABSTAIN: MARTINEZ

ACTION: Staff will place the approved minutes on the MSRC's website.

Agenda Item #2 – Summary of Final Reports by MSRC Contractors

Two final report summaries were included in the agenda package, as follows: 1) City of Redlands, Contract #MS11067, which provided \$85,000 towards the expansion of an LCNG and LNG fueling station; and 2) KEC Engineering, Contract #MS11055, which provided \$250,000 to repower five off-road heavy-duty vehicles.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND
SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER
APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE
MSRC VOTED UNANIMOUSLY TO APPROVE THE FINAL
REPORTS ABOVE.

AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY, MCCALLON, RUSH, BENOIT.

NOES: NONE.

ABSTAIN: MARTINEZ

ACTION: MSRC staff will file the final reports and release any retention on the contracts.

Receive and File Items

Agenda Item #3 – MSRC Contracts Administrator’s Report

The MSRC AB 2766 Contracts Administrator’s Report for October 30 through December 31, 2014, was included in the agenda package.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE MSRC VOTED UNANIMOUSLY TO RECEIVE AND FILE THE CONTRACTS ADMINISTRATOR’S REPORT FOR OCTOBER 30 THROUGH DECEMBER 31, 2014.

AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY, MCCALLON, RUSH, BENOIT.

NOES: NONE.

ABSTAIN: MARTINEZ

ACTION: SCAQMD staff will include the MSRC Contracts Administrator’s Report in the MSRC Committee Report for the February 6, 2015 SCAQMD Board meeting.

Agenda Item #4 – Financial Report on AB 2766 Discretionary Fund

A financial report on the AB 2766 Discretionary Fund for the period ending December 31, 2014 was included in the agenda package.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE MSRC VOTED UNANIMOUSLY TO RECEIVE AND FILE THE FINANCIAL REPORT FOR THE PERIOD ENDING DECEMBER 31, 2014.

AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY, MCCALLON, RUSH, BENOIT.

NOES: NONE.

ABSTAIN: MARTINEZ

ACTION: No further action is required.

For Approval - As Recommended**Agenda Item #5 – Consider 18-Month Term Extension by City of Los Angeles, Bureau of Sanitation, Contract #ML12017 (Purchase 32 Heavy-Duty Natural Gas Vehicles)**

The Bureau of Sanitation requests an 18-month term extension due to the need to re-bid their vehicle purchase. The MSRC-TAC unanimously recommends approval.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND
SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER
APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE
MSRC VOTED UNANIMOUSLY TO APPROVE AN 18-MONTH
CONTRACT TERM EXTENSION TO CITY OF LOS ANGELES,
BUREAU OF SANITATION, CONTRACT #ML12017, AS PART OF
THE FY 2011-12 LOCAL GOVERNMENT MATCH PROGRAM.
AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY,
MCCALLON, RUSH, BENOIT.
NOES: NONE.
ABSTAIN: MARTINEZ

ACTION: MSRC Staff will amend the above contract accordingly.

Agenda Item #6 – Exercise Second Two-Year Option with Mineral Studios for Hosting and Maintenance of the MSRC's Website

Mineral Studios currently hosts and maintains the www.CleanTransportationFunding.org website they developed for the MSRC under Contract #MS11001. This contract includes an option for up to two (2) two-year contract term extensions. MSRC staff recently reviewed Mineral's performance and found they were performing well in hosting and maintaining the site. MSRC staff recommends that the MSRC execute the second two-year option, extending the term until April 30, 2017 and increasing the contract amount by \$17,200. The MSRC-TAC unanimously recommends approval.

ON MOTION BY MSRC ALTERNATE ADAM RUSH, AND
SECONDED BY MSRC MEMBER GREG WINTERBOTTOM, UNDER
APPROVAL OF CONSENT CALENDAR ITEMS 1 THROUGH 6, THE
MSRC VOTED UNANIMOUSLY TO APPROVE EXERCISING
SECOND TWO-YEAR OPTION WITH MINERAL STUDIOS
CONTRACT #MS11001; EXTENDING THE TERM UNTIL APRIL 30,
2017 AND INCREASING THE CONTRACT AMOUNT BY \$17,200,
FOR THE HOSTING AND MAINTENANCE OF THE MSRC
WEBSITE.
AYES: VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY,
MCCALLON, RUSH, BENOIT.
NOES: NONE.
ABSTAIN: MARTINEZ

ACTION: MSRC Staff will amend the above contract accordingly.

ACTION CALENDAR (Items 7 through 9)**FY 2011-12 Work Program****Agenda Item #7 – Consider 30-Month Term Extension by Mike Diamond/Phace Management Services, Contract #MS12033 (Purchase 20 Medium-Heavy-Duty On-Road Vehicles)**

Cynthia Ravenstein, MSRC Contracts Administrator, reported that this request comes from Mike Diamond/Phace Management Services. They were awarded funding to purchase 20 medium-heavy-duty natural gas vehicles as part of the MSRC's 2011-12 Work Program. So far they have purchased one of those vehicles and placed it into service. They indicate that they were lead to believe that there was a lot of public access CNG fueling available around them, but that that wasn't really the case, initially. Subsequently, some public access fueling has become available—they noted the City of Fullerton and Timco stations, in particular. They are now ready to move forward with the rest of the vehicles and they are requesting a 30-month term extension. That is on the long side of what the MSRC usually considers. There was also a little bit of difficulty getting them to communicate with staff in the interim. The MSRC-TAC expressed concerns about length of the extension and the fleet's level of commitment. Therefore, the TAC recommended approval of the extension with the contingency that Mike Diamond issue purchase orders by the TAC meeting on July 2, 2015. This would preclude any further extensions.

PUBLIC COMMENT: Mike Diamond, of Mike Diamond/Phace Management Services, indicated that their biggest challenge has been refueling of the vehicles. They cover a large service area of Los Angeles, Orange County, Ventura and part of San Bernardino County. The trucks don't all come back to one specific site so they can get out there and find themselves without refueling. They think they can make this happen by adapting the way they do business. They have a location in Anaheim, which is close to the Fullerton station; and a location in Costa Mesa. They think they can accomplish it by keeping the trucks in the Orange County area until more fueling stations are built in the Los Angeles area. They still believe they can purchase the 19 remaining trucks. He said they have 100 diesel trucks they would like to get rid of.

MSRC Alternate Adam Rush asked if there are any plans or stations in their service radii that would correlate with this; anything that is corresponding that is currently in the works that would match up with their extension. Ms. Ravenstein said staff didn't actually make a check of that because she was under the impression that it was adequate with what they had mentioned, but there are several projects that the MSRC has funded, many of which are going to be publicly accessible, but not all.

**ON MOTION BY MSRC MEMBER GREG WINTERBOTTOM, AND
SECONDED BY MSRC ALTERNATE BEN BENOIT, THE MSRC
VOTED UNANIMOUSLY TO APPROVE A 30-MONTH CONTRACT
TERM EXTENSION TO MIKE DIAMOND/PHACE MANAGEMENT
SERVICES, CONTRACT #MS12033, CONTINGENT UPON THEM
ORDERING THE REMAINING 19 TRUCKS BY JULY 2, 2015.**

AYES: BENOIT, MARTINEZ, VERES, WINTERBOTTOM,
WITHYCOMBE, MCKAY, MCCALLON, RUSH.
NOES: NONE.

ACTION: MSRC staff will amend the above contract accordingly.

FYs 2012-14 Work Program

Agenda Item #8 – Consider Contract Value Increase by A-Z Bus Sales, Contract #MS14009 (\$343,000 – Incentives for Alternative Fuel School Buses)

Cynthia Ravenstein, MSRC Contracts Administrator, reported that the request for this item is going to be less than what it states in the agenda package. There was an expectation that A-Z was going to be receiving another order, so it was agendaized so the MSRC could consider it, however, they did not end up getting that second order. Therefore, the request is only for a \$45,000 increase. A-Z Bus Sales, one of the MSRC's qualified school bus vendors, has received an order to purchase five propane school buses from Anaheim Union High School District. The incentive amount for these buses is \$9,000 each. A-Z has already expended or has purchase orders against the funds that are in their contract. Therefore, A-Z is requesting a \$45,000 increase. This was considered by the MSRC-TAC and they recommended approval.

ON MOTION BY MSRC MEMBER EARL WITHYCOMBE, AND
SECONDED BY MSRC ALTERNATE BEN BENOIT, THE MSRC
UNANIMOUSLY APPROVED A \$45,000 CONTRACT VALUE
INCREASE TO A-Z BUS SALES, CONTRACT #MS14009, TO
PROVIDE INCENTIVES FOR THE PURCHASE OF FIVE PROPANE
SCHOOL BUSES BY ANAHEIM UNION HIGH SCHOOL DISTRICT,
AS PART OF THE FYS 2012-14 ALTERNATIVE FUEL SCHOOL BUS
INCENTIVE PROGRAM.

AYES: BENOIT, MARTINEZ, VERES, WINTERBOTTOM,
WITHYCOMBE, MCKAY, MCCALLON, RUSH.
NOES: NONE.

ACTION: Staff will include this item for consideration by the SCAQMD Board at its February 6, 2015 meeting.

Agenda Item #9 – Consider Funding for Applications Received under the Alternative Fuel Infrastructure Program and Correction of Previous Award

Cynthia Ravenstein, MSRC Contracts Administrator, presented this item on behalf of the Infrastructure Subcommittee Chair, A.J. Marquez, who was unable to attend the meeting. As an element of the FYs 2012-14 Work Program, the MSRC allocated \$7.5 million for the Alternative Fuel Infrastructure Program. The MSRC awarded funding for 27 projects, of which one was later declined. Three applications that were received prior to the close of the period were under extended review and were not acted on in November. This item addresses those three applications.

Also, there is one application that was not correctly described to the MSRC. This was an award to Pomona Valley Transfer Station that was described as an expansion of an existing station, but is, in fact a new CNG station. They are eligible for the same funding. Also, Pomona Valley Transfer Station is more a description of the location, but it is not the name of the entity to which the award should have been made—the awardee should be Grand Central Recycling. The MSRC-TAC recommends that those corrections be made.

The three applications are from City of Monterey Park, Serv-Wel Disposal Services, and West Covina Unified School District. They all indicated that they plan to take service under SoCalGas' Compression Service Tariff (CST). This is a relatively new thing, in which SoCalGas will actually own and operate compression equipment and they will provide that compression service to their customer. The customer owns and operates the dispensing equipment. This took a little bit more analysis because the Program Announcement did specify that the applicant was supposed to be the entity that would own the equipment. Basically, staff wanted to be sure that the people the MSRC would be contracting with have a vested interest in the project, that they can fulfill the operational requirements, and that they were just not leasing some equipment that might be taken away, because there is a five-year operational period requirement. That was the reason that that language was in there. Some additional information was obtained from the applicants and SoCalGas. Basically, each of these CST customers has to sign a long-term agreement with SoCalGas. The length of the agreement may vary, but they are all going to be at least as long as the MSRC's operational period, and in most cases, more like 10 or 15 years. The CST customers make monthly payments to SoCalGas to reimburse for the capital cost of the compression equipment, as well as its maintenance and operation. This is separate from the cost of the fuel.

This would entail a little bit different reimbursement situation than to the MSRC's norm. Usually when somebody is putting in a station, they have paid for the equipment to be put in, and as soon as it is operational they can get reimbursed from the MSRC. In this case, because they wouldn't have paid for it all up front, they would have to be reimbursed over time. What the MSRC-TAC is recommending is that the MSRC could have the applicant get reimbursed for 50% of the part of their CST payments that corresponds to the capital cost of the equipment. Anything that would be for operation and maintenance would be subtracted because the MSRC doesn't pay for that. To minimize the administrative burden on MSRC staff, the frequency of reimbursement could be negotiated, but it wouldn't be more frequent than every six months. Of course, dispensing equipment that the applicant would own outright would be handled more like all of the other projects.

The applications have been found to meet all other program criteria. The MSRC has the discretion to find that the projects substantially conform to the program requirements. The MSRC-TAC recommended approval of the three awards, for a total of \$449,000, provided the MSRC determines that the projects substantially conform to the program requirements; with the MSRC staff to negotiate the specific reimbursement details.

MSRC Member Greg Winterbottom said that the TAC's recommendation is that the MSRC do it if they determine that the projects "substantially conform" to the program requirements. What is the "substantial" portion of that?

Ray Gorski replied that this is a new way of doing business that has been proposed by SoCalGas. This is probably vetted more than almost any program in recent history between the SCAQMD, Legal, and the Gas Company, plus the project proponents. They are paying for the compression equipment, but they are not just doing it up front. This is a way to do business in which the project proponents don't have to have a major outlay of cash up front. In looking at this, staff just wanted to make sure that the MSRC was comfortable in giving that leeway to the project applicants, because at first blush it might look like it was contradictory to what the program announcement said.

Mr. Winterbottom indicated that by saying "substantial," that means that some or a minimum number of the requirements are left out. He asked if the MSRC would be making a precedent? Mr. Gorski didn't believe so. He indicated that the benefit of the bargain will still be received by the MSRC. The contract period of performance is the same. There are payback provisions in the event of some issue that was unforeseeable at this time. He does not see that there is any real downside. This is a new way of doing business and was not anticipated. In the next program opportunity, staff will have the language such that this can be accommodated.

Veera Tyagi, Senior Deputy District Counsel, indicated that the plain language of the program announcement states that the applicant be the entity that will own the fueling equipment, however, for the reasons that Ms. Ravenstein laid out, it does comport with the intention behind that provision, which is to ensure that there is sufficient confidence that the company will be able to comply with the five-year operational requirement. Because of the Compression Services Agreement (and Ms. Tyagi offered to go through that Agreement, to explain why they have that confidence), that provides enough assurance that the MSRC can determine that, in spite of that plain language, it does comport with the intent of the Program Announcement.

Mr. Winterbottom asked if Ms. Tyagi thinks that the applicants understand, because it really is a change from what has been done in the past.

Ms. Tyagi agreed that it is a change. However, she and John Olvera have had conversations with SoCalGas, and spoke with their attorney and explained what the requirements are and what the concerns were. They reviewed the Compression Services Agreement together. Under the Agreement SoCalGas actually separates out the amount of money that is paid for the capital component versus what is paid for operations and maintenance. The Compression Services Agreement also has a pretty heavy punishment in place if the company were to break the agreement. It also identifies that there can be a different way of structuring the payment arrangement. When they talked about it in detail the thought was that the MSRC would reimburse for what the company already paid, which ensures that they are only paying for it if they are using the service. That is a good proxy.

Ms. Ravenstein stated that although she personally did not speak with each applicant, they provided her with authorizations for SoCalGas to speak on their behalf and SoCalGas has been speaking with them, but prior to executing the actual contracts she

would make certain that these entities themselves understand. Ms. Tyagi added that the contracts would have to reflect those understandings.

[MSRC Member Michael Antonovich joined the meeting during the discussion of this item, at approximately 2:20 p.m.]

MSRC Member Earl Withycombe stated that during the TAC discussions his understanding was that if the payments by the jurisdictions to SoCalGas extend beyond five years, the MSRC is only reimbursing to the jurisdictions the payments that are made within the five-year period so that the MSRC can close out the contract at the end of the five-year period which is one of the MSRC's traditions. If that is the case, will the MSRC be inclined in the future to structure their repayment schedule to not exceed five years? Does the MSRC wish to consider longer repayment schedules to match the term of the repayment of the jurisdictions to SoCalGas?

Ms. Ravenstein indicated that the applicants will have the choice, because there is flexibility in how the payments for these folks to SoCalGas are going to be structured, they can choose to set those up so that they will all occur within the five-year period, or if they want to keep their payments lower and spread them out over a longer period of time, then they might be choosing to forego some of the MSRC award. That was part of the reimbursement details that the MSRC staff was going to negotiate is to ensure that they are not reimbursed for longer than five years. They can certainly, in their agreement with SoCalGas, set that up so that they can make certain that they can take advantage of the full MSRC award. Their cost may indeed exceed what they are going to get from the MSRC, so they could still be making payments, but if they want to recoup what the MSRC has awarded, they would need to structure those payments so that they would occur within a five-year period.

Mr. Withycombe asked if the five-year contract period is specified in any other document other than the solicitation. In future solicitations can the MSRC extend that to better match a longer repayment period that SoCalGas and the jurisdictions negotiate, if this is going to be the trend? Or is the five-year period fixed by some other external regulation? Ms. Ravenstein replied that she believed it is just the Program Announcement. Heretofore the MSRC didn't necessarily want these things to go on forever, but there is a new solicitation being developed so consideration could be given as to whether the MSRC wants to adhere to that.

Mr. Winterbottom stated that if this seems to be the future way the MSRC is going to operate, does Mr. Gorski foresee that there are going to be any questions from future applicants. He asked if Mr. Gorski thinks the MSRC will need more information, or will they be able to work through it okay.

Mr. Gorski replied that there may be some questions just because this is a new opportunity, however, just to be clear, staff doesn't anticipate that this would be the only method of doing business. Station proponents will have the ability to come in under original MSRC contracting mechanisms, but again if they want to limit their upfront cash expenditures, this is one method to pursue. As far as programs and specific contract awards, this one has been vetted through MSRC staff more than anything in recent

history. SCAQMD legal is fully engaged, MSRC's contract staff is fully engaged, and the Gas Company. At this point, there is nothing that would cause pause for staff to recommend that the MSRC consider this, not only for this opportunity, but as a potential element of a future program announcement.

ON MOTION BY MSRC MEMBER GREG WINTERBOTTOM, AND SECONDED BY MSRC MEMBER MICHELE MARTINEZ, THE MSRC UNANIMOUSLY APPROVED CORRECTIONS TO THE EARLIER AWARD TO POMONA VALLEY TRANSFER STATION, CHANGING THE AWARDEE NAME TO GRAND CENTRAL RECYCLING AND DESCRIBING THE PROJECT AS A NEW STATION INSTALLATION. THE MSRC FURTHER APPROVED THREE AWARDS TOTALING \$449,000, WITH MSRC STAFF TO NEGOTIATE SPECIFIC REIMBURSEMENT DETAILS, AS AN ELEMENT OF THE FYS 2012-14 WORK PROGRAM.

AYES: ANTONOVICH, MARTINEZ, VERES, WINTERBOTTOM, WITHYCOMBE, MCKAY, MCCALLON, RUSH.

NOES: NONE.

ACTION: Staff will include this item for consideration by the SCAQMD Board at its February 6, 2015 meeting.

OTHER BUSINESS

Agenda Item #10 – Other Business

- MSRC Member Greg Winterbottom welcomed Michele Martinez as the newest member to the MSRC representing Southern California Association of Governments (SCAG). MSRC Vice Chair Larry McCallon added that Ms. Martinez is the Second Vice President at SCAG, and he welcomed her to the MSRC.

ADJOURNMENT

THERE BEING NO FURTHER BUSINESS, THE MSRC MEETING ADJOURNED AT 2:30 P.M.

NEXT MEETING:

Thursday, February 19, 2015, at 2 p.m., Room CC-8.



**MOBILE SOURCE AIR POLLUTION REDUCTION REVIEW COMMITTEE
THURSDAY, MARCH 19, 2015 MEETING MINUTES**

21865 Copley Drive, Diamond, Bar, CA 91765- Conference Room CC-8

MEMBERS PRESENT:

Michael Antonovich, representing SCAQMD (via v/c)
Ben Benoit (Alt.), representing SCAQMD
Michele Martinez, representing SCAG ([via v/c](#))
Tim Shaw (Alt.) representing OCTA
Greg Winterbottom, representing OCTA
Earl Withycombe, representing CARB (via v/c)

MSRC MEMBERS ABSENT:

(Chair) Greg Pettis, rep. RCTC
(Vice Chair) Larry McCallon, representing SANBAG
April McKay (Alt.), representing LA County MTA
Steve Veres, rep. LA County MTA

MSRC-TAC MEMBERS PRESENT:

(MSRC-TAC Vice Chair) Tanya Love, RCTC
Rongsheng Luo (Alt.), representing Southern California Association of Governments
Dean Saito, representing SCAQMD

OTHERS PRESENT:

Lauren Dunlap, Southern California Gas
Earl Elrod, SCAQMD Board Asst (Yates)
Debra Mendelsohn, SCAQMD Board Asst (Antonovich)
Shannon Smith
Ric Teano, OCTA

SCAQMD STAFF & CONTRACTORS

Ray Gorski, MSRC Technical Advisor-Contractor
Henry Hogo, Asst. DEO/Science & Technology Advancement
John Kampa, Financial Analyst
Matt MacKenzie, MSRC Contracts Assistant
Ana Ponce, MSRC Administrative Liaison
Cynthia Ravenstein, MSRC Contracts Administrator
Veera Tyagi, Senior Deputy District Counsel
Rachel Valenzuela, MSRC Contracts Assistant
Paul Wright, Audio Visual Specialist

CALL TO ORDER

- Call to Order

In the absence of MSRC Chair Greg Pettis and Vice Chair Larry McCallon, MSRC Member Greg Winterbottom called the meeting to order at 2:05 p.m., as a committee of the whole, due to lack of a quorum. The items recommended for approval by the MSRC today, will be ratified at the next scheduled meeting on April 16, 2015.

- Opening Comments:
There were no opening comments.

PUBLIC COMMENT PERIOD

Public comments were allowed during the discussion of each agenda item. No comments were made on non-agenda items.

MSRC Member Earl Withycombe announced that he will be replaced on the MSRC effective April 1, 2015, by Erik White, Chief of the Mobile Source Control Division at CARB. Mr. White's alternate will be Todd Sax, Deputy Chief of the Mobile Source Control Division. A letter to that effect will be sent to the MSRC Chair before April 1. In addition, Earl Withycombe will become CARB's representative on the MSRC-TAC. CARB will be designating an MSRC-TAC Alternate in the near future. When that person has been brought up to speed, then Mr. Withycombe will switch places and become the Alternate Member. MSRC Member Greg Winterbottom requested that Mr. Withycombe attend a future meeting, in person, so that he can be recognized for his seven years of service as an MSRC Member. Henry Hogo noted that Erik White is in Southern California frequently. He is in charge of the Mobile Source Control Division of the El Monte office and may be able to coordinate his travel with the MSRC meeting dates.

[MSRC Member Michael Antonovich arrived at 2:10 p.m.]

CONSENT CALENDAR (Items 1 through 7)

Receive and Approve Items

Agenda Item #1 – Minutes of the January 15, 2015, MSRC Meeting

This item was postponed because the January 15, 2015 meeting minutes were not ready for distribution.

Agenda Item #2 – Summary of Final Reports by MSRC Contractors

Two final report summaries were included in the agenda package, as follows: 1) City of Ontario, Contract #MS12076, which provided \$75,000 for maintenance facility modifications; and 2) Rowland Unified School District, Contract #MS11060, which provided \$175,000 towards the installation of a CNG fueling station.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED UNANIMOUSLY TO APPROVE THE FINAL REPORTS ABOVE.
AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM, WITHYCOMBE.
NOES: NONE

ACTION: MSRC staff will file the final reports and release any retention on the contracts. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

Receive and File Items

Agenda Item #3 – MSRC Contracts Administrator’s Report

The MSRC AB 2766 Contracts Administrator’s Report for January 1 through February 25, 2015, was included in the agenda package.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED UNANIMOUSLY TO RECEIVE AND FILE THE CONTRACTS ADMINISTRATOR’S REPORT FOR JANUARY 1 THROUGH FEBRUARY 25, 2015.
AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM, WITHYCOMBE.
NOES: NONE

ACTION: SCAQMD staff will include the MSRC Contracts Administrator’s Report in the MSRC Committee Report for the April 3, 2015 SCAQMD Board meeting. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

Agenda Item #4 – Financial Report on AB 2766 Discretionary Fund

A financial report on the AB 2766 Discretionary Fund for the period ending February 28, 2015 was included in the agenda package.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED UNANIMOUSLY TO RECEIVE AND FILE THE FINANCIAL REPORT FOR THE PERIOD ENDING FEBRUARY 28, 2015.
AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM, WITHYCOMBE.

NOES: NONE

ACTION: No further action is required. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

For Approval - As Recommended

Agenda Item #5 – Consider Modified Scope of Work by Waste Management Collection and Recycling, Contract #MS14039 (\$75,000 – Modify Vehicle Maintenance Facility in Irvine)

Waste Management requests to substitute the installation of occupancy sensors for some of the fans specified in the contract, with no change in the contract value. The MSRC-TAC unanimously recommended approval.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED UNANIMOUSLY TO APPROVE WASTE MANAGEMENT TO SUBSTITUTE THE INSTALLATION OF OCCUPANCY SENSORS FOR SOME OF THE FANS SPECIFIED IN THE CONTRACT, WITH NO CHANGE IN THE CONTRACT VALUE, AS PART OF THE FYS 2012-14 ALTERNATIVE FUEL INFRASTRUCTURE PROGRAM.
AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM, WITHYCOMBE.
NOES: NONE

ACTION: MSRC Staff will amend the above contract accordingly. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

Agenda Item #6 – Consider Modified Scope of Work by Waste Management Collection and Recycling, Contract #MS14040 (\$75,000 – Modify Vehicle Maintenance Facility in Santa Ana)

Waste Management requests to substitute the installation of occupancy sensors for the backup power generator, gas detection system, and alarms specified in the contract, with no change in the contract value. The MSRC-TAC unanimously recommended approval.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED UNANIMOUSLY TO APPROVE WASTE MANAGEMENT TO SUBSTITUTE THE INSTALLATION OF OCCUPANCY SENSORS FOR THE BACKUP POWER GENERATOR, GAS DETECTION SYSTEM, AND ALARMS SPECIFIED IN THE CONTRACT, WITH NO CHANGE IN THE CONTRACT VALUE, AS PART OF THE FYS 2012-14 ALTERNATIVE FUEL INFRASTRUCTURE PROGRAM.

AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM,
WITHYCOMBE.
NOES: NONE

ACTION: MSRC Staff will amend the above contract accordingly. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

Agenda Item #7 – Consider Modified Scope of Work by USA Waste of California, Contract #MS14041 (\$175,000 – Install Limited Access CNG Station and Modify Vehicle Maintenance Facility in Compton)

USA Waste/Waste Management requests to substitute the installation of occupancy sensors and gas detectors for some of the lighting fixtures and fans specified in the contract, with no change in the contract value. The MSRC-TAC unanimously recommended approval.

ON MOTION BY MSRC MEMBER MICHELE MARTINEZ, AND
SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A
COMMITTEE OF THE WHOLE, UNDER APPROVAL OF CONSENT
CALENDAR ITEMS 2 THROUGH 7, THE MSRC VOTED
UNANIMOUSLY TO APPROVE USA WASTE/WASTE
MANAGEMENT TO SUBSTITUTE THE INSTALLATION OF
OCCUPANCY SENSORS AND GAS DETECTORS FOR SOME OF
THE LIGHTING FIXTURES AND FANS SPECIFIED IN THE
CONTRACT, WITH NO CHANGE IN THE CONTRACT VALUE, AS
PART OF FYS 2012-14 ALTERNATIVE FUEL INFRASTRUCTURE
PROGRAM.

AYES: ANTONOVICH, MARTINEZ, WINTERBOTTOM,
WITHYCOMBE.
NOES: NONE

ACTION: MSRC staff will amend the above contract accordingly. This item will be returned to the MSRC at its April 16, 2015 meeting for ratification.

ACTION CALENDAR (Items 8 through 11)

FYs 2014-16 Work Program

Agenda Items #8 – Consider Program Announcement for Local Government Match Program

Ray Gorski, MSRC Technical Advisor, indicated that he will report on Items 8 through 11 and walk through them all. The MSRC decided to take these items as one vote.

Today's discussion is to do the first phase of the MSRC's FYs 2014-16 Work Program. A few months ago, the MSRC provided its Technical Advisory Committee (TAC) with some guidance as to what four program areas should be looked at initially. Those included the Local Government Match Program; Major Event Center Transportation Program; Alternative Fuel Infrastructure Program; and a broad-based TCM Program, which is new for the MSRC. The TAC has developed, for the MSRC's consideration

today, program solicitations that reflect the input that was received during its workshop process in late summer/early fall, as well as deliberations among the TAC Subcommittee members.

This year the MSRC has approximately \$46.7 million total available for a work program which combines two years of revenue for the AB2766 discretionary fund, plus any turn back from prior years, and any interest accrued.

The TAC broke into three specific Subcommittees: 1) Local Government Match, chaired by Tanya Love, who represents Riverside County Transportation Commission; 2) Infrastructure, chaired by Steve Mateer, who represents Metro; 3) and TCM, which includes both Event Center as well as broad-based TCM, chaired by Kelly Lynn, who represents San Bernardino Associated Governments.

The Local Government Match Program has a recommended funding level of \$13 million, based upon recent history as to level of demand. The program announcement does include language which would allow the MSRC, based upon their discretion, to increase this funding level, if deemed appropriate. It also retains the overall implementation structure from prior years. The good elements of the program have been retained and processes corrected where necessary. There is a very broad category for Alternative Fuel Infrastructure. This includes both new refueling stations as well as the expansion of existing fueling stations; the modification of fleet facilities to allow the indoor maintenance of gaseous fuel vehicles; and also electric vehicle recharging stations. This has a cap per station for CNG, hydrogen, and other gaseous fuels of up to \$500,000. Applicants can match this dollar-for-dollar with subvention funds or other colors of money. Infrastructure for electric vehicles is capped at \$500,000 per entity. In past programs the MSRC has supported local jurisdictions in the acquisition of clean fuel vehicles. This is continuing with no change to the program from the previous year. This program will provide a dollar-for-dollar match, up to \$10,000 per medium-duty vehicle, and \$30,000 per qualified heavy-duty vehicle. Street sweeping is a category which is unique to the Coachella Valley. This helps them implement the Coachella Valley State Implementation Plan, and provides up to \$250,000 in MSRC match to implement a regional street sweeping program to remove dust which is accumulating on the roadways which can be re-entrained and become a respiratory hazard. This program has been in place for several years. A new category, which is an expansion of one that was in prior solicitations, is Active Transportation. The most recent solicitation included bicycle infrastructure. That has been expanded to include pedestrian access, as well as different types of bicycle programs. This has a \$250,000 cap for what are called "hard projects." Those are usually capital improvement projects which result in infrastructure being emplaced. There is also a dollar-for-dollar match up to \$50,000 for outreach and education programs. Another new category which was added at the request of the SCAQMD is commercial electric riding lawnmowers. This is a \$5,000 maximum match for a 50-inch or greater cutting deck, and \$2,500 for one that is a smaller commercial riding electric lawnmower with less than a 50-inch cutting deck. Based upon the SCAQMD's work, it is believed that those are appropriate levels of match funding given the cost of these commercial electric riding lawnmowers. As in past programs, there is the desire of the MSRC to retain broad-based participation. In that respect, there is a geographic funding minimum of \$1,625,000 per county. That is in keeping with the

formula that was applied last time. There is also the provision, if a city or county that wants to participate and has utilized all their AB2766 Subvention funds, which they can apply up to \$500,000 of another color of money. To ensure that folks have time to put their applications together, several months are allowed to submit an application. The dates will have to be shifted one month because, due to lack of a quorum, this item will not be able to be taken to the SCAQMD Governing Board until May.

Over the last couple of days, an issue did arise relating to the Active Transportation Program element of the Local Government Match Program. There are two components: one for the “hard projects,” which is for the emplacement of capital infrastructure; as well as the ability to use MSRC funds as a match for programs which are more for outreach and education. There is a limitation that has been placed by the SCAQMD on the use of subvention funds for outreach and education programs, and that is that they should not exceed 10 percent of that entity’s annual subvention fund allocation. Clarifying language will be included in the solicitation document. This maximum use of subvention funds for education and outreach does not apply to “open streets” type of projects—for example CicLAvia in Los Angeles, or other “open streets” type events that are hosted by jurisdictions throughout the region. There are no restrictions on those, other than the maximum \$50,000 which the MSRC is suggesting to apply. The clarifying language puts jurisdictions on notice that in certain cases, the use of subvention funds for outreach and education programs will be limited to 10 percent of their annual allocation. It is not anticipated that this will come up often, if at all. Also, because the Program allows entities to use a second color of money other than AB2766 subvention funds, they can probably simply dip into another funding program within their city or county to make up any difference above the 10 percent limitation. This is necessary language to ensure that participants in an MSRC program do not find themselves at odds with the SCAQMD downstream, but secondly, it doesn’t limit in any way the programs which were envisioned to fall under this work program subcategory; and thirdly, there is always the ability to use additional colors of money to make up any program cost above the 10 percent maximum, should that occur. It is being brought to the MSRC’s attention specifically because this was not reviewed by the TAC.

Agenda Item #9 – Consider Program Announcement for Alternative Fuel Infrastructure Program

The Alternative Fuel Infrastructure Program has a recommended funding amount of \$5 million, based upon the most recent demand. It can be adjusted by the MSRC, if deemed necessary. Similar to the Local Government Match Program, this retains most of the key features of the last Program, which was very successful. There were on the order of 30 applications submitted. Given the recommended amount per station which the TAC suggests offering, \$5 million should be an appropriate allocation. The matrix of funding availability has remained substantially the same. This program provides a varying incentive level as a function of who the applicant is and what type of station they are implementing. For example, it distinguishes between public entities and private entities. It has a graduated scale depending on whether the station allows limited access; or full 24-hours a day, 7 days a week public access; or whether or not the station is also going to have maintenance facility modifications. Over the last several years, the MSRC has been reducing the amount of funding for eligible alternative fuels, because the cost of these

alternative fuels has gotten to the point where they are very competitive versus conventional fuels and businesses have developed which will put in stations for a cost and then have it amortized over a fuel purchase contract, so the bottom line is you can get a bigger bang your buck. The MSRC has seen no drop off in the number of entities coming forth taking advantage of the program for a lower expenditure. So this is an effort to try to use the money as efficiently as possible.

There is another form of station incentive which is called the Compression Services Tariff (CST) which is a program which is offered by the Southern California Gas Company. To explain it in simplest terms, it is like leasing a car, in that you lease the compression equipment and then pay for the fuel as you would any station; but it reduces the upfront amount of money which an entity needs to bring to the table. Because of that, it is recommended by the TAC that the CST customers be eligible for an incentive of 25 percent on the compression equipment as opposed to 50 percent. CST customers don't have the same upfront costs of a traditional station. Because of that, it is felt that it would be appropriate to have an adjustment as with as these other adjustments for limited versus full access; and private versus public. This was discussed at length at the TAC and this is their recommended approach for this work program cycle.

For Alternative Fuel Infrastructure, there is a geographic funding minimum recommended at \$500,000 per county. This has a very long application submittal process, well over one year. The intent is to give entities enough time to put together their program plans to build new fueling stations. It includes all forms of natural gas fuel including compressed, liquefied, as well as biogas. It does not include liquefied petroleum gas, and it does not include electric vehicle infrastructure, which is another issue that the TAC debated. The problem with electric vehicle charging infrastructure (EVSE) is that currently there are many incentives available, but those incentives vary as a function of region within the South Coast district. The MSRC's Outreach Coordinator, The Better World Group, did a survey of all the types of money and incentives which are available to help emplace electric vehicle charging stations, and there is a list that is four pages long. At this time, the TAC is not certain how to pull together a program which will fill an identified need. The utilities have their own programs; the Los Angeles Department of Water and Power has already launched theirs. The impression is that Southern California Edison will be following shortly. Many of the municipal utilities have their own incentive programs available. There are state moneys, federal tax credits, local utility, and municipal utility grants available. At this time, there is a lack of clarity as to what could be done by the MSRC which is meaningful, but not duplicative, of other efforts which are ongoing from a whole host of entities. The SCAQMD has met with MSRC staff. They are in agreement that, at this point in time, it is really too early to put an electric vehicle charging station program together. That said, they are asking that the MSRC be open to evaluating one when the time is correct.

Agenda Item #10 – Consider Program Announcement for Major Event Center Transportation Program

The next item is the Major Event Center Transportation Program. This will be at least the fourth implementation of this program; it is a very popular program. It has a recommended targeted funding amount of \$4.5 million based on prior years' actual

amounts. There is a geographic funding minimum of \$250,000 per county. Similar to the Infrastructure Program, this has a fairly substantial application window which will span from May, 2015 through July, 2016, so there is ample opportunity for entities who want to participate in the program to put together a project in partnership with the transportation provider. The only really substantive change proposed compared to the most recent solicitation is that the emission standards have become more stringent. While the program is “fuel-neutral,” there is a requirement that the vehicles which implement this service meet, at a minimum, the 2010 EPA emission standards. This is recommended to ensure all the projects which participate under this program do in fact result in a quantifiable air quality benefit. Because automobiles which are being displaced are becoming increasingly cleaner as a function of time, the vehicles that provide this service need to also become increasingly cleaner. Therefore, it is recommended to ratchet up the cleanliness of the vehicles and require, at a minimum, the 2010 EPA standard, which is 0.2g/bhp-hr for NO_x and 0.01g for particulate matter. This applies to any vehicle that provides transportation under this service. For example, it will affect OCTA buses, should they apply; it will affect Metro buses, should MTA want to apply. This should not be an issue. There are projects which have been funded in prior years, which have ended, but the buses that implemented that service probably do not meet this requirement. Again, it is coming to a point where when asked to quantify the air quality benefits, we want to come up in the plus column.

Agenda Item #11 – Consider Invitation to Negotiate for Transportation Control Measure CTC Partnership Program

The last program category to be discussed is the TCM-CTC Partnership Program. This is a new category; however, it does use an implementation approach which has been proven in past solicitations. This is a partnership with the County Transportation Commissions (CTCs). The CTCs are believed to be the appropriate partners because they are the leaders in demonstrating and implementing transportation demand management and transportation control measure strategies. This is intended to provide a very flexible funding opportunity to allow the CTCs to demonstrate and implement projects which have the potential to eliminate automobile trips. Often times these are referred to as “first-mile, last-mile” types of projects. These are also the types of projects which are implemented under the Sustainable Communities portion of SB375 and also will help to meet the requirements of AB32.

There are several different types of projects listed in the Invitation to Negotiate (ITN), but this is not an exhaustive list. These are simply those which the MSRC has previously funded or that there has been advocacy for the MSRC to pursue. It includes projects such as traffic signal coordination; advanced ride-sharing programs; car sharing/bike sharing; Active Transportation projects, including both “complete streets” as well as “open streets;” transit pass incentives for college students; “first-mile, last-mile” strategies on a very broad level; transit center infrastructure; and information technology projects. Other projects may be presented for MSRC review which fall outside this list but are very innovative.

The recommended funding amount is \$2.5 million per CTC, for a total of \$10 million for this element of the Work Program. It is requested that each of the CTCs bring significant

co-funding to help leverage the MSRC monies. This would have a proposal acceptance period which would span a few months, beginning in May and ending in November, 2015. This is the first time that the MSRC has done this type of program, but the implementation strategy has been proven in past programs.

[MSRC Member Michael Antonovich left the meeting at 2:40 p.m.]

When you look at the total TAC recommendations of \$13 million for the Local Government Match Program; \$5 million for the Infrastructure Program; \$4.5 million for the Event Center Transportation Program; and \$10 million for the TCM-ITN Program, the total being recommended today for approval is \$32.5 million. This leaves a remaining unallocated balance of \$14.2 million. There is still a relatively substantial amount of unallocated funding to look at other types of programs which may make themselves known over the next several months.

ON MOTION BY MSRC ALTERNATE BEN BENOIT, AND
SECONDED BY MSRC MEMBER EARL WITHYCOMBE, AS A
COMMITTEE OF THE WHOLE, THE MSRC VOTED
UNANIMOUSLY TO APPROVE THE PROGRAM ANNOUNCEMENT
FOR LOCAL GOVERNMENT MATCH PROGRAM, AT A
RECOMMENDED TARGETED FUNDING AMOUNT OF
\$13.0 MILLION; THE PROGRAM ANNOUNCEMENT FOR
ALTERNATIVE FUEL INFRASTRUCTURE PROGRAM, AT A
RECOMMENDED TARGETED FUNDING AMOUNT OF
\$5.0 MILLION; THE PROGRAM ANNOUNCEMENT FOR MAJOR
EVENT CENTER TRANSPORTATION PROGRAM, AT A
RECOMMENDED TARGETED FUNDING AMOUNT OF
\$4.5 MILLION; AND AN INVITATION TO NEGOTIATE FOR
TRANSPORTATION CONTROL MEASURE CTC PARTNERSHIP
PROGRAM, AT A RECOMMENDED TARGETED FUNDING
AMOUNT OF \$10.0 MILLION; AS PART OF THE FYS 2014-16
WORK PROGRAM.

AYES: BENOIT, MARTINEZ, WINTERBOTTOM, WITHYCOMBE.
NOES: NONE.

ACTION: Action Calendar Agenda Items 8 through 11 will be returned to the MSRC at its April 16, 2015 meeting for ratification.

OTHER BUSINESS

Agenda Item #12 – Other Business

- No other business was introduced.

ADJOURNMENT

THERE BEING NO FURTHER BUSINESS, THE MSRC MEETING
ADJOURNED AT 2:50 P.M.

NEXT MEETING:

Thursday, April 16, 2015, at 2 p.m., Room CC-8.

[Prepared by Ana Ponce]



MSRC Agenda Item No. 3

DATE: April 16, 2015

FROM: Cynthia Ravenstein

SUBJECT: AB 2766 Contracts Administrator's Report

SYNOPSIS: This report covers key issues addressed by MSRC staff, status of open contracts, and administrative scope changes from February 26 to March 25, 2015.

RECOMMENDATION: Receive and file report

WORK PROGRAM IMPACT: None

Contract Execution Status

2014-16 Work Program

On December 5, 2014, the SCAQMD Governing Board approved an award under the AB118 Enhanced Fleet Maintenance Program. This contract is executed.

2012-14 Work Program

On April 5, 2013, the SCAQMD Governing Board approved three awards under the Event Center Transportation Program. These contracts are executed.

On July 5, 2013, the SCAQMD Governing Board approved an additional award to Orange County Transportation Authority under the Event Center Transportation Program. This contract is executed.

On September 6, 2013, the SCAQMD Governing Board approved an award to Transit Systems Unlimited under the Event Center Transportation Program. This contract is executed.

On November 1, 2013, the SCAQMD Governing Board approved two awards under the Event Center Transportation Program. These contracts are executed.

On December 6, 2013, the SCAQMD Governing Board approved 25 awards under the Local Government Match Program, 12 awards under the Alternative Fuel Infrastructure Program, one award under the Alternative Fuel School Bus Incentives Program, and one award under the Event Center Transportation Program. These contracts are awaiting responses from the prospective contractor, with the prospective contractor for signature, or executed.

On January 10, 2014, the SCAQMD Governing Board approved three awards under the Local Government Match Program, one award under the Alternative Fuel Infrastructure Program, and one award under the Alternative Fuel School Bus Incentives Program. These contracts are executed.

On February 7, 2014, the SCAQMD Governing Board approved two awards under the Local Government Match Program and one award under the Alternative Fuel Infrastructure Program. These contracts are executed.

On April 4, 2014, the SCAQMD Governing Board approved two awards under the Local Government Match Program and three awards under the Traffic Signal Synchronization Partnership Program. These contracts are executed.

On May 2, 2014, the SCAQMD Governing Board approved 12 awards under the Local Government Match Program. These contracts are awaiting responses from the prospective contractor, undergoing internal review, with the prospective contractor for signature, or executed.

On June 6, 2014, the SCAQMD Governing Board approved an award under the Traffic Signal Synchronization Partnership Program. This contract is executed.

On July 11, 2014, the SCAQMD Governing Board approved an award under the Traffic Signal Synchronization Partnership Program. This contract is executed.

On September 5, 2014, the SCAQMD Governing Board approved an award under the Event Center Transportation Program. This contract is executed.

On October 3, 2014, the SCAQMD Governing Board approved an award under the Alternative Fuel Infrastructure Program. This contract is executed.

On December 5, 2014, the SCAQMD Governing Board approved 12 awards under the Alternative Fuel Infrastructure Program and two awards under the Event Center Transportation Program. These contracts are awaiting responses from the prospective contractor, under development or undergoing internal review.

On February 6, 2015, the SCAQMD Governing Board approved 3 awards under the Alternative Fuel Infrastructure Program. These contracts are under development or undergoing internal review.

Work Program Status

Contract Status Reports for work program years with open and pending contracts are attached. MSRC or MSRC-TAC members may request spreadsheets covering any other work program year.

FY 2004-05 Work Program Contracts

One contract from this work program year is open.

FY 2004-05 Invoices Paid

No invoices were paid during this period.

FY 2005-06 Work Program Contracts

5 contracts from this work program year are open; and 2 are in “Open/Complete” status, having completed all obligations save ongoing operation.

FY 2005-06 Work Program Invoices Paid

One invoice in the amount of \$149,925.00 was paid during this period.

FY 2006-07 Work Program Contracts

5 contracts from this work program year are open; and 19 are in “Open/Complete” status. 2 contracts closed during this period: City of Alhambra, Contract #ML07036 – Purchase 2 Heavy-Duty CNG Vehicles; and City of Cathedral City, Contract #ML07047 – Purchase 2 Heavy-Duty CNG Vehicles and Install CNG Fueling Station.

FY 2006-07 Invoices Paid

No invoices were paid during this period.

FY 2007-08 Work Program Contracts

11 contracts from this work program year are open; and 34 are in “Open/Complete” status. 3 contracts closed during this period: City of Chino, Contract #ML08044 – Purchase 1 Heavy-Duty CNG Vehicle; City of Paramount, Contract #MS08071 – Purchase 1 Heavy-Duty CNG Vehicle; and Hemet Unified School District, Contract #MS08064 – Expand Existing CNG Station.

FY 2007-08 Invoices Paid

No invoices were paid during this period.

FY 2008-09 Work Program Contracts

6 contracts from this work program year are open; and 15 are in “Open/Complete” status.

FY 2008-09 Invoices Paid

No invoices were paid during this period.

FY 2009-10 Work Program Contracts

2 contracts from this work program year are open; and 14 are in “Open/Complete” status.

FY 2009-10 Invoices Paid

No invoices were paid during this period.

FY 2010-11 Work Program Contracts

32 contracts from this work program year are open; and 22 are in “Open/Complete” status. One proposed contract with the Los Angeles Unified School District is still with them for signature following MSRC approval of modifications. Lastly, one proposed contract with Ivanhoe Energy Services and Development is still with the prospective contractor for signature. In October, the MSRC-TAC recommended that Ivanhoe come back with a report in March 2015. Ivanhoe has indicated verbally that they will decline the award; a letter to that effect is expected soon.

FY 2010-11 Invoices Paid

3 invoices totaling \$21,796.02.00 were paid during this period.

FY 2011-12 Work Program Contracts

53 contracts from this work program year are open, and 15 are in “Open/Complete” status.

FY 2011-12 Invoices Paid

4 invoices totaling \$354,718.00 were paid during this period.

FYs 2012-14 Work Program Contracts

46 contracts from this work program year are open, and 2 are in “Open/Complete” status.

FYs 2012-14 Invoices Paid

7 invoices totaling \$112,332.48 were paid during this period.

FYs 2014-16 Work Program Contracts

One contract from this work program year is open.

FYs 2014-16 Invoices Paid

No invoices were paid during this period.

Administrative Scope Changes

2 administrative scope changes were initiated during the period of February 26 to March 25, 2015:

- MS14048 – Buswest (Alternative Fuel School Bus Incentives) – Two-month no-cost term extension
- MS14059 – Riverside County Transportation Commission (Signal Synchronization Partnership Program) – Corrected description of Magnolia Avenue project

Attachments

- FY 2004-05 through FYs 2014-16 Contract Status Reports



AB2766 Discretionary Fund Program Invoices

February 26, 2015 to March 25, 2015

Contract Admin.	MSRC Chair	MSRC Liaison	Finance	Contract #	Contractor	Invoice #	Amount
<i>2005-2006 Work Program</i>							
3/10/2015	3/20/2015	3/24/2015	3/24/2015	ML06071	City of Santa Monica	1 - Final	\$149,925.00
Total: \$149,925.00							
<i>2010-2011 Work Program</i>							
3/20/2015	3/20/2015	3/24/2015	3/24/2015	MS11001	Mineral LLC	101024	\$300.00
3/19/2015				MS11056	The Better World Group	1392	\$17,146.02
3/18/2015	3/20/2015	3/24/2015	3/24/2015	MS11082	Baumot North America, LLC	Final	\$4,350.00
Total: \$21,796.02							
<i>2011-2012 Work Program</i>							
3/25/2015				ML12021	City of Rancho Cucamonga	3-Final	\$10,000.00
3/19/2015	3/20/2015	3/24/2015	3/24/2015	ML12023	County of Los Angeles Internal Services Depart	100A614A-F	\$192,333.00
3/18/2015	3/20/2015	3/24/2015	3/24/2015	MS12076	City of Ontario, Housing & Municipal Services	1 - Final	\$75,000.00
3/3/2015	3/20/2015	3/24/2015	3/24/2015	ML12054	City of Palm Desert	1 (Final)	\$77,385.00
Total: \$354,718.00							
<i>2012-2014 Work Program</i>							
3/25/2015				MS14073	Anaheim Transportation Network	50325	\$11,632.40
3/25/2015				MS14073	Anaheim Transportation Network	50324	\$12,714.00
3/25/2015				MS14073	Anaheim Transportation Network	50323	\$13,561.60
3/25/2015				MS14073	Anaheim Transportation Network	50321	\$15,451.28
3/25/2015				MS14073	Anaheim Transportation Network	50320	\$9,862.32
3/24/2015				MS14048	BusWest	BW005596	\$31,000.00
3/18/2015	3/20/2015	3/24/2015	3/24/2015	ML14032	City of Rancho Cucamonga	1	\$18,110.88

Total: \$112,332.48

Total This Period: \$638,771.50

FYs 2004-05 Through 2012-14 AB2766 Contract Status Report

4/9/2015

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
FY 2004-2005 Contracts									
Open Contracts									
ML05014	Los Angeles County Department of	5/21/2007	11/20/2008	3/20/2016	\$204,221.00	\$0.00	Traffic Signal Synchronization	\$204,221.00	No
Total: 1									
Declined/Cancelled Contracts									
ML05005	City of Highland				\$20,000.00	\$0.00	2 Medium Duty CNG Vehicles	\$20,000.00	No
ML05008	Los Angeles County Department of				\$140,000.00	\$0.00	7 Heavy Duty LPG Street Sweepers	\$140,000.00	No
ML05010	Los Angeles County Department of				\$20,000.00	\$0.00	1 Heavy Duty CNG Bus	\$20,000.00	No
Total: 3									
Closed Contracts									
ML05006	City of Colton Public Works	7/27/2005	7/26/2006		\$30,000.00	\$30,000.00	3 Medium Duty CNG Vehicles	\$0.00	Yes
ML05011	Los Angeles County Department of	8/10/2006	12/9/2007	6/9/2008	\$52,409.00	\$51,048.46	3 Heavy Duty LPG Shuttle Vans	\$1,360.54	Yes
ML05013	Los Angeles County Department of	1/5/2007	7/4/2008	1/4/2013	\$313,000.00	\$313,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05015	City of Lawndale	7/27/2005	7/26/2006		\$10,000.00	\$10,000.00	1 Medium Duty CNG Vehicle	\$0.00	Yes
ML05016	City of Santa Monica	9/23/2005	9/22/2006	9/22/2007	\$350,000.00	\$350,000.00	6 MD CNG Vehicles, 1 LPG Sweep, 13 CNG	\$0.00	Yes
ML05017	City of Signal Hill	1/16/2006	7/15/2007		\$126,000.00	\$126,000.00	Traffic Signal Synchronization	\$0.00	Yes
ML05018	City of San Bernardino	4/19/2005	4/18/2006		\$40,000.00	\$40,000.00	4 M.D. CNG Vehicles	\$0.00	Yes
ML05019	City of Lakewood	5/6/2005	5/5/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05020	City of Pomona	6/24/2005	6/23/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05021	City of Whittier	7/7/2005	7/6/2006	4/6/2008	\$100,000.00	\$80,000.00	Sweeper, Aerial Truck, & 3 Refuse Trucks	\$20,000.00	Yes
ML05022	City of Claremont	9/23/2005	9/22/2006		\$20,000.00	\$20,000.00	2 M.D. CNG Vehicles	\$0.00	Yes
ML05024	City of Cerritos	4/18/2005	3/17/2006		\$10,000.00	\$10,000.00	1 M.D. CNG Vehicle	\$0.00	Yes
ML05025	City of Malibu	5/6/2005	3/5/2006		\$10,000.00	\$10,000.00	1 Medium-Duty CNG Vehicle	\$0.00	Yes
ML05026	City of Inglewood	1/6/2006	1/5/2007	2/5/2009	\$60,000.00	\$60,000.00	2 CNG Transit Buses, 1 CNG Pothole Patch	\$0.00	Yes
ML05027	City of Beaumont	2/23/2006	4/22/2007	6/22/2010	\$20,000.00	\$20,000.00	1 H.D. CNG Bus	\$0.00	Yes
ML05028	City of Anaheim	9/8/2006	9/7/2007	5/7/2008	\$85,331.00	\$85,331.00	Traffic signal coordination & synchronization	\$0.00	Yes
ML05029	Los Angeles World Airports	5/5/2006	9/4/2007		\$140,000.00	\$140,000.00	Seven CNG Buses	\$0.00	Yes
ML05071	City of La Canada Flintridge	1/30/2009	1/29/2011		\$20,000.00	\$20,000.00	1 CNG Bus	\$0.00	Yes
ML05072	Los Angeles County Department of	8/24/2009	5/23/2010	1/23/2011	\$349,000.00	\$349,000.00	Traffic Signal Synchronization (LADOT)	\$0.00	Yes
Total: 19									
Closed/Incomplete Contracts									

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML05007	Los Angeles County Dept of Beache	6/23/2006	6/22/2007	12/22/2007	\$50,000.00	\$0.00	5 Medium Duty CNG Vehicles	\$50,000.00	No
ML05009	Los Angeles County Department of	6/22/2006	12/21/2007	9/30/2011	\$56,666.00	\$0.00	2 Propane Refueling Stations	\$56,666.00	No
ML05012	Los Angeles County Department of	11/10/2006	5/9/2008	1/9/2009	\$349,000.00	\$0.00	Traffic Signal Synchronization (LADOT)	\$349,000.00	No
ML05023	City of La Canada Flintridge	3/30/2005	2/28/2006	8/28/2008	\$20,000.00	\$0.00	1 CNG Bus	\$20,000.00	No

Total: 4

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2005-2006 Contracts

Open Contracts

ML06031	City of Inglewood	4/4/2007	6/3/2013	9/3/2015	\$150,000.00	\$65,602.40	Purchase 4 H-D LPG Vehicles & Install LPG	\$84,397.60	No
ML06035	City of Hemet, Public Works	11/10/2006	12/9/2012	1/9/2017	\$338,107.00	\$175,000.00	7 Nat Gas Trucks & New Nat Gas Infrastruct	\$163,107.00	No
ML06054	Los Angeles County Department of	6/17/2009	6/16/2016		\$150,000.00	\$0.00	3 CNG & 3 LPG HD Trucks	\$150,000.00	No
ML06070	City of Colton	4/30/2008	2/28/2015	4/30/2015	\$50,000.00	\$0.00	Two CNG Pickups	\$50,000.00	No

Total: 4

Declined/Cancelled Contracts

ML06018	Los Angeles County Dept of Beache				\$375,000.00	\$0.00	New CNG Station & 2 CNG Dump Trucks	\$375,000.00	No
ML06019	Los Angeles County Dept of Beache				\$250,000.00	\$0.00	New CNG Station & 2 CNG Dump Trucks	\$250,000.00	No
ML06023	City of Baldwin Park	6/16/2006	9/15/2012		\$20,000.00	\$0.00	CNG Dump Truck	\$20,000.00	No
ML06024	City of Pomona	8/3/2007	7/2/2013	7/2/2014	\$286,450.00	\$0.00	New CNG Station	\$286,450.00	No
ML06030	City of Burbank	3/19/2007	9/18/2011		\$287,700.00	\$0.00	New CNG Fueling Station	\$287,700.00	No
ML06037	City of Lynwood				\$25,000.00	\$0.00	1 Nat Gas Dump Truck	\$25,000.00	No
ML06039	City of Inglewood	2/9/2007	2/8/2008	4/8/2011	\$50,000.00	\$0.00	Modify Maintenance Facility for CNG Vehicle	\$50,000.00	No
ML06055	City of Los Angeles, Dept. of Genera				\$125,000.00	\$0.00	5 Gas-Electric Hybrid Buses	\$125,000.00	No
ML06059	City of Fountain Valley				\$25,000.00	\$0.00	One H.D. CNG Truck	\$25,000.00	No
MS06009	Clean Energy Fuels Corp.	6/23/2006	12/22/2012		\$250,000.00	\$0.00	New CNG Station - Laguna Niguel	\$250,000.00	Yes
MS06040	Capistrano Unified School District				\$136,000.00	\$0.00	New CNG Fueling Station	\$136,000.00	No
MS06041	Clean Energy Fuels Corp.	12/1/2006	3/31/2013	6/18/2009	\$250,000.00	\$0.00	New CNG Station-Newport Beach	\$250,000.00	No
MS06046	City of Long Beach, Dept. of Public				\$250,000.00	\$0.00	LNG Fueling Station	\$250,000.00	No
MS06051	Menifee Union School District	3/2/2007	7/1/2014		\$150,000.00	\$0.00	CNG Fueling Station	\$150,000.00	No

Total: 14

Closed Contracts

ML06016	City of Whittier	5/25/2006	5/24/2012	11/24/2012	\$50,000.00	\$50,000.00	2 CNG Refuse Trucks	\$0.00	Yes
ML06017	City of Claremont	8/2/2006	4/1/2012		\$50,000.00	\$50,000.00	2 CNG Refuse Trucks	\$0.00	Yes
ML06020	Los Angeles Department of Water a	3/19/2007	9/18/2013	4/18/2014	\$25,000.00	\$25,000.00	CNG Aerial Truck	\$0.00	Yes
ML06021	Los Angeles World Airports	9/13/2006	5/12/2013		\$150,000.00	\$150,000.00	6 CNG Buses	\$0.00	Yes
ML06022	City of Los Angeles, Bureau of Sanit	5/4/2007	1/3/2014		\$1,250,000.00	\$1,250,000.00	50 LNG Refuse Trucks	\$0.00	Yes
ML06025	City of Santa Monica	1/5/2007	11/4/2012	12/14/2014	\$300,000.00	\$300,000.00	12 H.D. CNG Vehicles	\$0.00	Yes
ML06026	City of Cerritos	10/27/2006	9/26/2010		\$60,500.00	\$60,500.00	CNG Station Upgrade	\$0.00	Yes
ML06027	City of Redondo Beach	9/5/2006	5/4/2012	10/4/2012	\$50,000.00	\$50,000.00	2 Heavy-Duty CNG Trucks	\$0.00	Yes
ML06028	City of Pasadena	9/29/2006	11/28/2012	3/28/2014	\$245,000.00	\$245,000.00	New CNG Station & Maint. Fac. Upgrades	\$0.00	Yes
ML06029	City of Culver City Transportation De	9/29/2006	8/28/2012	12/28/2012	\$50,000.00	\$50,000.00	2 CNG Heavy-Duty Trucks	\$0.00	Yes
ML06032	City of Rancho Cucamonga	2/13/2007	3/12/2013	2/12/2014	\$237,079.00	\$237,079.00	New CNG Station & 2 CNG Dump Trucks	\$0.00	Yes
ML06033	City of Cathedral City	11/17/2006	12/16/2012	12/16/2013	\$125,000.00	\$125,000.00	5 Heavy-Duty CNG Trucks	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML06034	City of South Pasadena	9/25/2006	9/24/2012		\$16,422.42	\$16,422.42	2 Nat. Gas Transit Buses	\$0.00	Yes
ML06036	City of Riverside	3/23/2007	3/22/2013		\$200,000.00	\$200,000.00	8 Heavy-Duty Nat Gas Vehicles	\$0.00	Yes
ML06038	City of Los Angeles, Department of	5/21/2007	1/20/2014		\$625,000.00	\$625,000.00	25 CNG Street Sweepers	\$0.00	Yes
ML06044	City of Pomona	12/15/2006	3/14/2013		\$50,000.00	\$50,000.00	2 CNG Street Sweepers	\$0.00	Yes
ML06052	City of Hemet, Public Works	4/20/2007	2/19/2013		\$25,000.00	\$25,000.00	Purchase One CNG Dump Truck	\$0.00	Yes
ML06053	City of Burbank	5/4/2007	7/3/2013		\$125,000.00	\$125,000.00	Five Nat. Gas Refuse Trucks	\$0.00	Yes
ML06056	City of Los Angeles, Dept. of Genera	11/30/2007	11/29/2008		\$350,000.00	\$350,000.00	Maintenance Facility Mods.	\$0.00	Yes
ML06057	City of Rancho Cucamonga	8/28/2007	6/27/2013	8/27/2014	\$100,000.00	\$100,000.00	4 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML06058	City of Santa Monica	7/12/2007	7/11/2013		\$149,925.00	\$0.00	3 H.D. CNG Trucks & CNG Fueling Station	\$149,925.00	No
ML06060	City of Temple City	6/12/2007	6/11/2013		\$31,885.00	\$0.00	Upgrade existing CNG infrastructure	\$31,885.00	No
ML06061	City of Chino Hills	4/30/2007	4/29/2013		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML06062	City of Redlands	5/11/2007	5/10/2013		\$100,000.00	\$100,000.00	4 H.D. LNG Vehicles	\$0.00	Yes
ML06063	City of Moreno Valley	3/23/2007	11/22/2012		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML06064	City of South Pasadena	1/25/2008	11/24/2013	11/24/2014	\$50,000.00	\$50,000.00	2 H.D. CNG Vehicles	\$0.00	Yes
ML06065	City of Walnut	6/29/2007	6/28/2013		\$44,203.00	\$44,203.00	Upgrade Existing CNG Infrastructure	\$0.00	Yes
ML06066	City of Ontario, Housing & Municipal	5/30/2007	1/29/2013		\$125,000.00	\$125,000.00	5 H.D. CNG Vehicles	\$0.00	Yes
ML06067	City of El Monte	3/17/2008	5/16/2014	11/16/2014	\$157,957.00	\$157,957.00	Upgrade existing CNG infrastructure	\$0.00	Yes
ML06068	City of Claremont	8/28/2007	6/27/2013		\$60,000.00	\$60,000.00	Expand existing CNG infrastructure	\$0.00	Yes
ML06069	City of Palos Verdes Estates	11/19/2007	11/18/2013		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
MS06001	Riverside County Transportation Co	8/3/2007	9/2/2011		\$825,037.00	\$825,037.00	New Freeway Service Patrol	\$0.00	Yes
MS06002	Orange County Transportation Autho	11/7/2007	11/6/2013		\$928,740.00	\$925,091.00	New Freeway Service Patrol	\$3,649.00	Yes
MS06003	San Bernardino Associated Govern	10/19/2006	6/18/2010		\$804,240.00	\$804,239.87	New Freeway Service Patrol	\$0.13	Yes
MS06004	Los Angeles County MTA	8/10/2006	7/9/2010		\$1,391,983.00	\$1,391,791.98	New Freeway Service Patrol	\$191.02	Yes
MS06010	US Airconditioning Distributors	12/28/2006	6/27/2012		\$83,506.00	\$83,506.00	New CNG Station - Industry	\$0.00	Yes
MS06011	County Sanitation Districts of L.A. C	6/1/2006	7/31/2012		\$150,000.00	\$150,000.00	New CNG Station - Carson	\$0.00	Yes
MS06012	Consolidated Disposal Service	7/14/2006	9/13/2012	9/13/2014	\$297,981.00	\$297,981.00	New LNG Station & Facility Upgrades	\$0.00	Yes
MS06042	Clean Energy Fuels Corp.	1/5/2007	1/4/2013		\$150,000.00	\$150,000.00	New CNG Station-Baldwin Park	\$0.00	Yes
MS06043X	Westport Fuel Systems, Inc.	2/3/2007	12/31/2010	9/30/2011	\$2,000,000.00	\$2,000,000.00	Advanced Natural Gas Engine Incentive Pro	\$0.00	Yes
MS06045	Orange County Transportation Autho	8/17/2007	12/16/2013		\$200,000.00	\$200,000.00	CNG Fueling Station/Maint. Fac. Mods	\$0.00	Yes
MS06047	Hemet Unified School District	9/19/2007	11/18/2013		\$125,000.00	\$125,000.00	CNG Refueling Station	\$0.00	Yes
MS06048	Newport-Mesa Unified School Distric	6/25/2007	8/24/2013	8/24/2014	\$50,000.00	\$50,000.00	CNG Fueling Station	\$0.00	Yes
MS06050	Rossmoor Pastries	1/24/2007	10/23/2012		\$18,750.00	\$14,910.50	CNG Fueling Station	\$3,839.50	Yes

Total: 44

Open/Complete Contracts

ML06071	City of Santa Monica	6/13/2014		11/30/2016	\$149,925.00	\$149,925.00	3 H.D. CNG Trucks & CNG Fueling Station	\$0.00	Yes
MS06013	City of Commerce	1/9/2008	7/8/2014	7/8/2015	\$350,000.00	\$350,000.00	New L/CNG Station - Commerce	\$0.00	Yes
MS06049	Clean Energy Fuels Corp.	4/20/2007	7/19/2013	11/30/2015	\$250,000.00	\$228,491.18	CNG Fueling Station - L.B.P.D.	\$21,508.82	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2006-2007 Contracts

Open Contracts

ML07044	City of Santa Monica	9/8/2008	3/7/2015	3/7/2017	\$600,000.00	\$50,000.00	24 H.D. Nat. Gas Vehicles	\$550,000.00	No
ML07045	City of Inglewood	2/6/2009	4/5/2015		\$75,000.00	\$25,000.00	3 H.D. Nat. Gas Vehicles	\$50,000.00	No
MS07022	CSULA Hydrogen Station and Resea	10/30/2009	12/29/2015	10/29/2019	\$250,000.00	\$0.00	New Hydrogen Fueling Station	\$250,000.00	No
MS07080	City of Los Angeles, Bureau of Sanit	10/31/2008	8/30/2010	8/28/2016	\$63,192.00	\$62,692.00	Off-Road Diesel Equipment Retrofit Program	\$500.00	No

Total: 4

Declined/Cancelled Contracts

ML07031	City of Santa Monica				\$180,000.00	\$0.00	Upgrade N.G. Station to Add Hythane	\$180,000.00	No
ML07032	City of Huntington Beach Public Wor				\$25,000.00	\$0.00	One H.D. CNG Vehicle	\$25,000.00	No
ML07035	City of Los Angeles, General Service				\$350,000.00	\$0.00	New CNG Refueling Station/Southeast Yard	\$350,000.00	No
ML07038	City of Palos Verdes Estates				\$25,000.00	\$0.00	One H.D. LPG Vehicle	\$25,000.00	No
MS07010	Palos Verdes Peninsula Transit Auth				\$80,000.00	\$0.00	Repower 4 Transit Buses	\$80,000.00	No
MS07014	Clean Energy Fuels Corp.				\$350,000.00	\$0.00	New L/CNG Station - SERRF	\$350,000.00	No
MS07015	Baldwin Park Unified School District				\$57,500.00	\$0.00	New CNG Station	\$57,500.00	No
MS07016	County of Riverside Fleet Services D				\$36,359.00	\$0.00	New CNG Station - Rubidoux	\$36,359.00	No
MS07017	County of Riverside Fleet Services D				\$33,829.00	\$0.00	New CNG Station - Indio	\$33,829.00	No
MS07018	City of Cathedral City				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07021	City of Riverside				\$350,000.00	\$0.00	New CNG Station	\$350,000.00	No
MS07050	Southern California Disposal Co.				\$320,000.00	\$0.00	Ten Nat. Gas Refuse Trucks	\$320,000.00	No
MS07062	Caltrans Division of Equipment				\$1,081,818.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$1,081,818.00	No
MS07065	ECCO Equipment Corp.				\$174,525.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$174,525.00	No
MS07067	Recycled Materials Company of Calif				\$99,900.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$99,900.00	No
MS07069	City of Burbank	5/9/2008	3/8/2010	9/8/2011	\$8,895.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$8,895.00	No
MS07074	Albert W. Davies, Inc.	1/25/2008	11/24/2009		\$39,200.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$39,200.00	No
MS07081	Clean Diesel Technologies, Inc.				\$240,347.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$240,347.00	No
MS07082	DCL International, Inc.				\$153,010.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$153,010.00	No
MS07083	Dinex Exhausts, Inc.				\$52,381.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$52,381.00	No
MS07084	Donaldson Company, Inc.				\$42,416.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$42,416.00	No
MS07085	Engine Control Systems Limited				\$155,746.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$155,746.00	No
MS07086	Huss, LLC				\$84,871.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$84,871.00	No
MS07087	Mann+Hummel GmbH				\$189,361.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$189,361.00	No
MS07088	Nett Technologies, Inc.				\$118,760.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$118,760.00	No
MS07089	Rypos, Inc.				\$68,055.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$68,055.00	No
MS07090	Sud-Chemie				\$27,345.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$27,345.00	No

Total: 27

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
Closed Contracts									
ML07025	City of San Bernardino	8/12/2008	7/11/2010		\$350,000.00	\$350,000.00	Maintenance Facility Modifications	\$0.00	Yes
ML07026	City of South Pasadena	6/13/2008	6/12/2014		\$25,000.00	\$25,000.00	One H.D. CNG Vehicle	\$0.00	Yes
ML07027	Los Angeles World Airports	6/3/2008	7/2/2014		\$25,000.00	\$25,000.00	One H.D. LNG Vehicle	\$0.00	Yes
ML07028	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Hollywood Yard	\$0.00	Yes
ML07029	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Venice Yard	\$0.00	Yes
ML07033	City of La Habra	5/21/2008	6/20/2014	11/30/2013	\$25,000.00	\$25,000.00	One H.D. Nat Gas Vehicle	\$0.00	Yes
ML07034	City of Los Angeles, General Service	3/13/2009	3/12/2014		\$350,000.00	\$350,000.00	New CNG Refueling Station/Van Nuys Yard	\$0.00	Yes
ML07036	City of Alhambra	1/23/2009	2/22/2015		\$50,000.00	\$50,000.00	2 H.D. CNG Vehicles	\$0.00	Yes
ML07040	City of Moreno Valley	6/3/2008	9/2/2014		\$25,000.00	\$25,000.00	One Heavy-Duty CNG Vehicle	\$0.00	Yes
ML07041	City of La Quinta	6/6/2008	6/5/2014		\$25,000.00	\$25,000.00	One CNG Street Sweeper	\$0.00	Yes
ML07042	City of La Quinta	8/15/2008	9/14/2010		\$100,000.00	\$100,000.00	Street Sweeping Operations	\$0.00	Yes
ML07046	City of Culver City Transportation De	5/2/2008	5/1/2014		\$25,000.00	\$25,000.00	One H.D. Nat. Gas Vehicle	\$0.00	Yes
ML07047	City of Cathedral City	6/16/2008	9/15/2014	3/15/2015	\$225,000.00	\$225,000.00	Two H.D. Nat. Gas Vehicles/New CNG Fueli	\$0.00	Yes
ML07048	City of Cathedral City	9/19/2008	10/18/2010		\$100,000.00	\$84,972.45	Street Sweeping Operations	\$15,027.55	Yes
MS07001	A-Z Bus Sales, Inc.	12/28/2006	12/31/2007	2/29/2008	\$1,920,000.00	\$1,380,000.00	CNG School Bus Buydown	\$540,000.00	Yes
MS07002	BusWest	1/19/2007	12/31/2007	3/31/2008	\$840,000.00	\$840,000.00	CNG School Bus Buydown	\$0.00	Yes
MS07003	Westport Fuel Systems, Inc.	11/2/2007	12/31/2011	6/30/2013	\$1,500,000.00	\$1,499,990.00	Advanced Nat. Gas Engine Incentive Progra	\$10.00	Yes
MS07005	S-W Compressors	3/17/2008	3/16/2010		\$60,000.00	\$7,500.00	Mountain CNG School Bus Demo Program-	\$52,500.00	Yes
MS07006	Coachella Valley Association of Gov	2/28/2008	10/27/2008		\$400,000.00	\$400,000.00	Coachella Valley PM10 Reduction Street Sw	\$0.00	Yes
MS07007	Los Angeles World Airports	5/2/2008	11/1/2014		\$420,000.00	\$420,000.00	Purchase CNG 21 Transit Buses	\$0.00	Yes
MS07011	L A Service Authority for Freeway E	3/12/2010	5/31/2011	9/30/2011	\$700,000.00	\$700,000.00	"511" Commuter Services Campaign	\$0.00	Yes
MS07012	City of Los Angeles, General Service	6/13/2008	6/12/2009	6/12/2010	\$50,000.00	\$50,000.00	Maintenance Facility Modifications	\$0.00	Yes
MS07013	Rainbow Disposal Company, Inc.	1/25/2008	3/24/2014	9/24/2014	\$350,000.00	\$350,000.00	New High-Volume CNG Station	\$0.00	Yes
MS07019	City of Cathedral City	1/9/2009	6/8/2010		\$32,500.00	\$32,500.00	Maintenance Facility Modifications	\$0.00	Yes
MS07051	City of San Bernardino	8/12/2008	12/11/2014		\$480,000.00	\$480,000.00	15 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07052	City of Redlands	7/30/2008	11/29/2014		\$160,000.00	\$160,000.00	Five Nat. Gas Refuse Trucks	\$0.00	Yes
MS07053	City of Claremont	7/31/2008	12/30/2014		\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07055	City of Culver City Transportation De	7/8/2008	9/7/2014		\$192,000.00	\$192,000.00	Six Nat. Gas Refuse Trucks	\$0.00	Yes
MS07056	City of Whittier	9/5/2008	3/4/2015		\$32,000.00	\$32,000.00	One Nat. Gas Refuse Trucks	\$0.00	Yes
MS07058	The Better World Group	11/17/2007	11/16/2009	11/16/2011	\$247,690.00	\$201,946.21	MSRC Programmatic Outreach Services	\$45,743.79	Yes
MS07059	County Sanitation Districts of L.A. C	9/5/2008	9/4/2010	7/14/2012	\$231,500.00	\$231,500.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07060	Community Recycling & Resource R	3/7/2008	1/6/2010	7/6/2011	\$177,460.00	\$98,471.00	Off-Road Diesel Equipment Retrofit Program	\$78,989.00	Yes
MS07061	City of Los Angeles, Department of	10/31/2008	8/30/2010	2/28/2013	\$40,626.00	\$40,626.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07063	Shimmick Construction Company, In	4/26/2008	2/25/2010	8/25/2011	\$80,800.00	\$11,956.37	Off-Road Diesel Equipment Retrofit Program	\$68,843.63	No
MS07064	Altfillisch Contractors, Inc.	9/19/2008	7/18/2010	1/18/2011	\$160,000.00	\$155,667.14	Off-Road Diesel Equipment Retrofit Program	\$4,332.86	Yes
MS07068	Sukut Equipment Inc.	1/23/2009	11/22/2010	5/22/2012	\$26,900.00	\$26,900.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS07070	Griffith Company	4/30/2008	2/28/2010	8/28/2012	\$168,434.00	\$125,504.00	Off-Road Diesel Equipment Retrofit Program	\$42,930.00	Yes
MS07071	Tiger 4 Equipment Leasing	9/19/2008	7/18/2010	1/18/2013	\$210,937.00	\$108,808.97	Off-Road Diesel Equipment Retrofit Program	\$102,128.03	Yes
MS07072	City of Culver City Transportation De	4/4/2008	2/3/2010	8/3/2011	\$72,865.00	\$72,865.00	Off-Road Diesel Equipment Retrofit Program	\$0.00	Yes
MS07075	Dan Copp Crushing	9/17/2008	7/16/2010	1/16/2012	\$73,600.00	\$40,200.00	Off-Road Diesel Equipment Retrofit Program	\$33,400.00	No
MS07076	Reed Thomas Company, Inc.	8/15/2008	6/14/2010	3/14/2012	\$339,073.00	\$100,540.00	Off-Road Diesel Equipment Retrofit Program	\$238,533.00	No
MS07079	Riverside County Transportation Co	1/30/2009	7/29/2013	12/31/2011	\$20,000.00	\$15,165.45	BikeMetro Website Migration	\$4,834.55	Yes
MS07091	BusWest	10/16/2009	3/15/2010		\$33,660.00	\$33,660.00	Provide Lease for 2 CNG School Buses	\$0.00	Yes
MS07092	Riverside County Transportation Co	9/1/2010	10/31/2011		\$350,000.00	\$350,000.00	"511" Commuter Services Campaign	\$0.00	Yes

Total: 44

Closed/Incomplete Contracts

MS07004	BusWest	7/2/2007	7/1/2009		\$90,928.00	\$68,196.00	Provide Lease for 2 CNG School Buses	\$22,732.00	No
MS07066	Skanska USA Civil West California D	6/28/2008	4/27/2010	10/27/2010	\$111,700.00	\$36,128.19	Off-Road Diesel Equipment Retrofit Program	\$75,571.81	No
MS07073	PEED Equipment Co.	10/31/2008	8/30/2010		\$11,600.00	\$0.00	Off-Road Diesel Equipment Retrofit Program	\$11,600.00	No

Total: 3

Open/Complete Contracts

ML07023	City of Riverside	6/20/2008	10/19/2014	7/19/2016	\$462,500.00	\$461,476.42	CNG Station Expansion/Purch. 14 H.D. Vehi	\$1,023.58	No
ML07024	City of Garden Grove	3/7/2008	9/6/2014	7/6/2016	\$75,000.00	\$75,000.00	Three H.D. CNG Vehicles	\$0.00	Yes
ML07030	County of San Bernardino Public Wo	7/11/2008	9/10/2015		\$200,000.00	\$200,000.00	8 Natural Gas H.D. Vehicles	\$0.00	Yes
ML07037	City of Los Angeles, General Service	10/8/2008	10/7/2015		\$255,222.00	\$255,222.00	Upgrade LNG/LCNG Station/East Valley Yar	\$0.00	Yes
ML07039	City of Baldwin Park	6/6/2008	6/5/2014	8/5/2015	\$50,000.00	\$50,000.00	Two N.G. H.D. Vehicles	\$0.00	Yes
ML07043	City of Redondo Beach	9/28/2008	7/27/2014	10/27/2016	\$125,000.00	\$125,000.00	Five H.D. CNG Transit Vehicles	\$0.00	Yes
MS07008	City of Los Angeles, Department of T	9/18/2009	5/17/2020	9/17/2017	\$1,900,000.00	\$1,900,000.00	Purchase 95 Transit Buses	\$0.00	Yes
MS07009	Orange County Transportation Autho	5/14/2008	4/13/2016		\$800,000.00	\$800,000.00	Purchase 40 Transit Buses	\$0.00	Yes
MS07020	Avery Petroleum	5/20/2009	7/19/2015		\$250,000.00	\$250,000.00	New CNG Station	\$0.00	Yes
MS07049	Palm Springs Disposal Services	10/23/2008	11/22/2014	9/22/2016	\$96,000.00	\$96,000.00	Three Nat. Gas Refuse Trucks	\$0.00	Yes
MS07054	Republic Services, Inc.	3/7/2008	9/6/2014	9/6/2016	\$1,280,000.00	\$1,280,000.00	40 Nat. Gas Refuse Trucks	\$0.00	Yes
MS07057	CR&R, Inc.	7/31/2008	8/30/2014	6/30/2015	\$896,000.00	\$896,000.00	28 Nat. Gas Refuse Trucks	\$0.00	No
MS07077	USA Waste of California, Inc.	5/1/2009	12/31/2014		\$160,000.00	\$160,000.00	Five Nat. Gas Refuse Trucks (Santa Ana)	\$0.00	Yes
MS07078	USA Waste of California, Inc.	5/1/2009	12/31/2014	12/31/2015	\$256,000.00	\$256,000.00	Eight Nat. Gas Refuse Trucks (Dewey's)	\$0.00	Yes

Total: 14

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2007-2008 Contracts

Open Contracts

ML08028	City of Santa Monica	9/11/2009	9/10/2016	5/10/2019	\$600,000.00	\$0.00	24 CNG Heavy-Duty Vehicles	\$600,000.00	No
ML08030	City of Azusa	5/14/2010	3/13/2016		\$25,000.00	\$0.00	1 LPG Heavy-Duty Vehicle	\$25,000.00	No
ML08040	City of Riverside	9/11/2009	9/10/2016	3/10/2019	\$455,500.00	\$28,124.80	16 CNG Vehicles, Expand CNG Station & M	\$427,375.20	No
ML08043	City of Desert Hot Springs	9/25/2009	3/24/2016		\$25,000.00	\$0.00	1 CNG Heavy-Duty Vehicle	\$25,000.00	No
ML08080	City of Irvine	5/1/2009	5/31/2015		\$50,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$50,000.00	No
MS08007	United Parcel Service West Region	12/10/2008	10/9/2014	4/9/2019	\$300,000.00	\$0.00	10 H.D. Nat. Gas Vehicles	\$300,000.00	No
MS08013	United Parcel Service West Region	12/10/2008	10/9/2014	3/9/2019	\$480,000.00	\$216,000.00	12 H.D. Nat. Gas Yard Tractors	\$264,000.00	No
MS08015	Yosemite Waters	5/12/2009	5/11/2015		\$180,000.00	\$117,813.60	11 H.D. Propane Vehicles	\$62,186.40	No
MS08018	Los Angeles County Department of	8/7/2009	10/6/2016	4/6/2018	\$60,000.00	\$0.00	2 CNG Vehicles	\$60,000.00	No
MS08058	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$320,000.00	New CNG Station - Ontario Airport	\$80,000.00	No
MS08068	Regents of the University of Californi	11/5/2010	11/4/2017	11/4/2019	\$400,000.00	\$0.00	Hydrogen Station	\$400,000.00	No

Total: 11

Declined/Cancelled Contracts

ML08032	City of Irvine	5/1/2009	8/31/2010		\$9,000.00	\$0.00	36 Vehicles (Diagnostic)	\$9,000.00	No
ML08041	City of Los Angeles, Dept of Transpo	8/6/2010	7/5/2011	12/5/2011	\$8,800.00	\$0.00	73 Vehicles (Diagnostic)	\$8,800.00	No
ML08049	City of Cerritos	3/20/2009	1/19/2015	2/19/2017	\$25,000.00	\$0.00	1 CNG Heavy-Duty Vehicle	\$25,000.00	No
ML08051	City of Colton				\$75,000.00	\$0.00	3 CNG Heavy-Duty Vehicles	\$75,000.00	No
MS08002	Orange County Transportation Autho				\$1,500,000.00	\$0.00	Big Rig Freeway Service Patrol	\$1,500,000.00	No
MS08008	Diversified Truck Rental & Leasing				\$300,000.00	\$0.00	10 H.D. Nat. Gas Vehicles	\$300,000.00	No
MS08010	Orange County Transportation Autho				\$10,000.00	\$0.00	20 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08011	Green Fleet Systems, LLC				\$10,000.00	\$0.00	30 H.D. Nat. Gas Vehicles	\$10,000.00	No
MS08052	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014	11/23/2015	\$100,000.00	\$0.00	New CNG Station - Fontana	\$100,000.00	No
MS08054	Clean Energy Fuels Corp.				\$400,000.00	\$0.00	New LNG Station - Fontana	\$400,000.00	No
MS08055	Clean Energy Fuels Corp.	11/26/2009	3/25/2016	3/25/2017	\$400,000.00	\$0.00	New LNG Station - Long Beach-Pier S	\$400,000.00	No
MS08059	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - San Bernardino	\$100,000.00	No
MS08060	Burrtec Waste Industries, Inc.	12/24/2008	11/23/2014		\$100,000.00	\$0.00	New CNG Station - Azusa	\$100,000.00	No
MS08062	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$0.00	New CNG Station - Rialto	\$400,000.00	No
MS08074	Fontana Unified School District	11/14/2008	12/13/2014		\$200,000.00	\$0.00	Expansion of Existing CNG station	\$200,000.00	No
MS08077	Hythane Company, LLC				\$144,000.00	\$0.00	Upgrade Station to Hythane	\$144,000.00	No

Total: 16

Closed Contracts

ML08023	City of Villa Park	11/7/2008	10/6/2012		\$6,500.00	\$5,102.50	Upgrade of Existing Refueling Facility	\$1,397.50	Yes
ML08027	Los Angeles County Department of	7/20/2009	1/19/2011	1/19/2012	\$6,901.00	\$5,124.00	34 Vehicles (Diagnostic)	\$1,777.00	No
ML08029	City of Gardena	3/19/2009	1/18/2015		\$25,000.00	\$25,000.00	1 Propane Heavy-Duty Vehicle	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
ML08031	City of Claremont	3/27/2009	3/26/2013	3/26/2015	\$97,500.00	\$97,500.00	Upgrade of Existing CNG Station, Purchase	\$0.00	Yes
ML08033	County of San Bernardino Public Wo	4/3/2009	2/2/2010		\$14,875.00	\$14,875.00	70 Vehicles (Diagnostic)	\$0.00	Yes
ML08035	City of La Verne	3/6/2009	11/5/2009		\$11,925.00	\$11,925.00	53 Vehicles (Diagnostic)	\$0.00	Yes
ML08036	City of South Pasadena	5/12/2009	7/11/2013		\$169,421.00	\$169,421.00	New CNG Station	\$0.00	Yes
ML08044	City of Chino	3/19/2009	3/18/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08045	City of Santa Clarita	2/20/2009	6/19/2010		\$3,213.00	\$3,150.00	14 Vehicles (Diagnostic)	\$63.00	Yes
ML08046	City of Paramount	2/20/2009	2/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
MS08001	Los Angeles County MTA	12/10/2010	6/9/2014		\$1,500,000.00	\$1,499,999.66	Big Rig Freeway Service Patrol	\$0.34	Yes
MS08003	A-Z Bus Sales, Inc.	5/2/2008	12/31/2008	2/28/2009	\$1,480,000.00	\$1,400,000.00	Alternative Fuel School Bus Incentive Progr	\$80,000.00	Yes
MS08004	BusWest	5/2/2008	12/31/2008		\$1,440,000.00	\$1,440,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS08009	Los Angeles World Airports	12/24/2008	12/23/2014		\$870,000.00	\$870,000.00	29 H.D. Nat. Gas Vehicles	\$0.00	Yes
MS08016	TransVironmental Solutions, Inc.	1/23/2009	12/31/2010	9/30/2011	\$227,198.00	\$80,351.34	Rideshare 2 School Program	\$146,846.66	Yes
MS08022	SunLine Transit Agency	12/18/2008	3/17/2015		\$311,625.00	\$311,625.00	15 CNG Buses	\$0.00	Yes
MS08064	Hemet Unified School District	1/9/2009	3/8/2015		\$75,000.00	\$75,000.00	Expansion of Existing Infrastructure	\$0.00	Yes
MS08065	Pupil Transportation Cooperative	11/20/2008	7/19/2014		\$10,500.00	\$10,500.00	Existing CNG Station Modifications	\$0.00	Yes
MS08071	ABC Unified School District	1/16/2009	1/15/2015		\$63,000.00	\$63,000.00	New CNG Station	\$0.00	Yes
MS08075	Disneyland Resort	12/10/2008	2/1/2015		\$200,000.00	\$200,000.00	Expansion of Existing CNG Infrastructure	\$0.00	Yes
MS09002	A-Z Bus Sales, Inc.	11/7/2008	12/31/2009	12/31/2010	\$2,520,000.00	\$2,460,000.00	Alternative Fuel School Bus Incentive Progr	\$60,000.00	No
MS09004	A-Z Bus Sales, Inc.	1/30/2009	3/31/2009		\$156,000.00	\$156,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS09047	BusWest	7/9/2010	12/31/2010	4/30/2011	\$480,000.00	\$480,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes

Total: 23

Closed/Incomplete Contracts

ML08025	Los Angeles County Department of	10/30/2009	3/29/2011		\$75,000.00	\$0.00	150 Vehicles (Diagnostic)	\$75,000.00	No
MS08079	ABC Unified School District	1/16/2009	12/15/2009	12/15/2010	\$50,000.00	\$0.00	Maintenance Facility Modifications	\$50,000.00	No

Total: 2

Open/Complete Contracts

ML08024	City of Anaheim	7/9/2010	7/8/2017	1/8/2018	\$425,000.00	\$425,000.00	9 LPG Buses and 8 CNG Buses	\$0.00	No
ML08026	Los Angeles County Department of	7/20/2009	7/19/2016		\$250,000.00	\$250,000.00	10 LPG Heavy-Duty Vehicles	\$0.00	Yes
ML08034	County of San Bernardino Public Wo	3/27/2009	7/26/2015		\$150,000.00	\$150,000.00	8 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08037	City of Glendale	5/20/2009	5/19/2015		\$325,000.00	\$325,000.00	13 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08038	Los Angeles Department of Water a	7/16/2010	7/15/2017		\$1,050,000.00	\$1,050,000.00	42 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08039	City of Rancho Palos Verdes	6/5/2009	8/4/2015		\$50,000.00	\$50,000.00	2 LPG Transit Buses	\$0.00	Yes
ML08042	City of Ontario, Housing & Municipal	5/1/2009	1/31/2016		\$175,000.00	\$175,000.00	7 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08047	City of Culver City Transportation De	5/12/2009	8/11/2015		\$150,000.00	\$150,000.00	6 CNG Heavy-Duty Vehicles	\$0.00	Yes
ML08048	City of Santa Clarita	2/20/2009	6/19/2015		\$25,000.00	\$25,000.00	1 CNG Heavy-Duty Vehicle	\$0.00	Yes
ML08050	City of Laguna Beach Public Works	8/12/2009	4/11/2016	10/11/2016	\$75,000.00	\$75,000.00	3 LPG Trolleys	\$0.00	Yes
MS08005	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Azusa	\$0.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS08006	Burrtec Waste Industries, Inc.	10/23/2008	11/22/2014	10/22/2015	\$450,000.00	\$450,000.00	15 H.D. Nat. Gas Vehicles - Saugus	\$0.00	Yes
MS08012	California Cartage Company, LLC	12/21/2009	10/20/2015	4/20/2016	\$480,000.00	\$480,000.00	12 H.D. Nat. Gas Yard Tractors	\$0.00	Yes
MS08014	City of San Bernardino	12/5/2008	6/4/2015		\$390,000.00	\$360,000.00	13 H.D. Nat. Gas Vehicles	\$30,000.00	Yes
MS08017	Omnitrans	12/13/2008	12/12/2015	12/12/2016	\$900,000.00	\$900,000.00	30 CNG Buses	\$0.00	Yes
MS08019	Enterprise Rent-A-Car Company of L	2/12/2010	7/11/2016		\$300,000.00	\$300,000.00	10 CNG Vehicles	\$0.00	Yes
MS08020	Ware Disposal Company, Inc.	11/25/2008	2/24/2016		\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08021	CalMet Services, Inc.	1/9/2009	1/8/2016	7/8/2016	\$900,000.00	\$900,000.00	30 CNG Vehicles	\$0.00	Yes
MS08053	City of Los Angeles, Bureau of Sanit	2/18/2009	12/17/2015		\$400,000.00	\$400,000.00	New LNG/CNG Station	\$0.00	Yes
MS08056	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New LNG Station - POLB-Anah. & I	\$0.00	Yes
MS08057	Orange County Transportation Autho	5/14/2009	7/13/2015		\$400,000.00	\$400,000.00	New CNG Station - Garden Grove	\$0.00	Yes
MS08061	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$400,000.00	New CNG Station - L.A.-La Cienega	\$0.00	Yes
MS08063	Go Natural Gas	9/25/2009	1/24/2016	1/24/2017	\$400,000.00	\$400,000.00	New CNG Station - Moreno Valley	\$0.00	Yes
MS08066	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Palm Spring Airport	\$0.00	Yes
MS08067	Trillium CNG	3/19/2009	6/18/2015	6/18/2016	\$311,600.00	\$254,330.00	New CNG Station	\$57,270.00	Yes
MS08069	Perris Union High School District	6/5/2009	8/4/2015	8/4/2016	\$225,000.00	\$225,000.00	New CNG Station	\$0.00	Yes
MS08070	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Paramount	\$0.00	Yes
MS08072	Clean Energy Fuels Corp.	12/4/2009	3/3/2015		\$400,000.00	\$354,243.38	New CNG Station - Burbank	\$45,756.62	Yes
MS08073	Clean Energy Fuels Corp.	11/26/2009	2/25/2015		\$400,000.00	\$400,000.00	New CNG Station - Norwalk	\$0.00	Yes
MS08076	Azusa Unified School District	10/17/2008	11/16/2014	1/31/2017	\$172,500.00	\$172,500.00	New CNG station and maint. Fac. Modificati	\$0.00	Yes
MS08078	SunLine Transit Agency	12/10/2008	6/9/2015	2/9/2016	\$189,000.00	\$189,000.00	CNG Station Upgrade	\$0.00	Yes

Total: 31

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2008-2009 Contracts

Open Contracts

ML09010	City of Palm Springs	1/8/2010	2/7/2016		\$25,000.00	\$0.00	1 Nat. Gas Heavy-Duty Vehicle	\$25,000.00	No
ML09026	Los Angeles County Department of	10/15/2010	10/14/2017	4/14/2019	\$150,000.00	\$0.00	3 Off-Road Vehicles Repowers	\$150,000.00	No
ML09032	Los Angeles World Airports	4/8/2011	4/7/2018		\$175,000.00	\$0.00	7 Nat. Gas Heavy-Duty Vehicles	\$175,000.00	No
ML09033	City of Beverly Hills	3/4/2011	5/3/2017	5/3/2018	\$550,000.00	\$100,000.00	10 Nat. Gas Heavy-Duty Vehicles & CNG St	\$450,000.00	No
ML09036	City of Long Beach Fleet Services B	5/7/2010	5/6/2017	5/6/2020	\$875,000.00	\$525,000.00	Purchase 35 LNG Refuse Trucks	\$350,000.00	No
ML09047	Los Angeles County Department of	8/13/2014	8/12/2015		\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No

Total: 6

Declined/Cancelled Contracts

ML09017	County of San Bernardino Public Wo	1/28/2010	7/27/2016		\$200,000.00	\$0.00	8 Nat. Gas Heavy-Duty Vehicles	\$200,000.00	No
ML09018	Los Angeles Department of Water a	7/16/2010	9/15/2012		\$850,000.00	\$0.00	Retrofit 85 Off-Road Vehicles w/DECS	\$850,000.00	No
ML09019	City of San Juan Capistrano Public	12/4/2009	11/3/2010		\$10,125.00	\$0.00	Remote Vehicle Diagnostics/45 Vehicles	\$10,125.00	No
ML09022	Los Angeles County Department of				\$8,250.00	\$0.00	Remote Vehicle Diagnostics/15 Vehicles	\$8,250.00	No
ML09025	Los Angeles County Department of	10/15/2010	12/14/2012	6/14/2013	\$50,000.00	\$0.00	Remote Vehicle Diagnostics/85 Vehicles	\$50,000.00	No
ML09028	Riverside County Waste Manageme				\$140,000.00	\$0.00	Retrofit 7 Off-Road Vehicles w/DECS	\$140,000.00	No
ML09039	City of Inglewood				\$310,000.00	\$0.00	Purchase 12 H.D. CNG Vehicles and Remot	\$310,000.00	No
ML09040	City of Cathedral City				\$83,125.00	\$0.00	Purchase 3 H.D. CNG Vehicles and Remote	\$83,125.00	No
ML09044	City of San Dimas				\$425,000.00	\$0.00	Install CNG Station and Purchase 1 CNG S	\$425,000.00	No
ML09045	City of Orange				\$125,000.00	\$0.00	Purchase 5 CNG Sweepers	\$125,000.00	No
MS09003	FuelMaker Corporation				\$296,000.00	\$0.00	Home Refueling Apparatus Incentives	\$296,000.00	No

Total: 11

Closed Contracts

ML09007	City of Rancho Cucamonga	2/26/2010	4/25/2012		\$117,500.00	\$62,452.57	Maintenance Facility Modification	\$55,047.43	Yes
ML09013	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$144,470.00	\$128,116.75	Traffic Signal Synchr./Moreno Valley	\$16,353.25	Yes
ML09014	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$113,030.00	\$108,495.94	Traffic Signal Synchr./Corona	\$4,534.06	Yes
ML09015	City of Riverside Public Works	9/10/2010	12/9/2011	7/31/2013	\$80,060.00	\$79,778.52	Traffic Signal Synchr./Co. of Riverside	\$281.48	Yes
ML09016	County of San Bernardino Public Wo	1/28/2010	3/27/2014		\$50,000.00	\$50,000.00	Install New CNG Station	\$0.00	Yes
ML09020	County of San Bernardino	8/16/2010	2/15/2012		\$49,770.00	\$49,770.00	Remote Vehicle Diagnostics/252 Vehicles	\$0.00	Yes
ML09021	City of Palm Desert	7/9/2010	3/8/2012		\$39,450.00	\$38,248.87	Traffic Signal Synchr./Rancho Mirage	\$1,201.13	Yes
ML09024	Los Angeles County Department of	10/15/2010	12/14/2012	6/14/2013	\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML09027	Los Angeles County Department of	7/23/2010	3/22/2012	6/22/2012	\$150,000.00	\$150,000.00	Freeway Detector Map Interface	\$0.00	Yes
ML09030	City of Los Angeles GSD/Fleet Servi	6/18/2010	6/17/2011		\$22,310.00	\$22,310.00	Remote Vehicle Diagnostics/107 Vehicles	\$0.00	No
MS09001	Administrative Services Co-Op/Long	3/5/2009	6/30/2012	12/31/2013	\$225,000.00	\$150,000.00	15 CNG Taxicabs	\$75,000.00	Yes
MS09005	Gas Equipment Systems, Inc.	6/19/2009	10/18/2010		\$71,000.00	\$71,000.00	Provide Temp. Fueling for Mountain Area C	\$0.00	Yes

Total: 12

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
Open/Complete Contracts									
ML09008	City of Culver City Transportation De	1/19/2010	7/18/2016	7/18/2017	\$175,000.00	\$175,000.00	8 Nat. Gas Heavy-Duty Vehicles	\$0.00	No
ML09009	City of South Pasadena	11/5/2010	12/4/2016	3/4/2019	\$137,500.00	\$125,930.00	CNG Station Expansion	\$11,570.00	No
ML09011	City of San Bernardino	2/19/2010	5/18/2016		\$250,000.00	\$250,000.00	10 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09012	City of Gardena	3/12/2010	11/11/2015		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09023	Los Angeles County Department of	12/10/2010	12/9/2017		\$50,000.00	\$50,000.00	2 Heavy-Duty Alternative Fuel Transit Vehic	\$0.00	No
ML09029	City of Whittier	11/6/2009	4/5/2016		\$25,000.00	\$25,000.00	1 Nat. Gas Heavy-Duty Vehicle	\$0.00	Yes
ML09031	City of Los Angeles, Department of	10/29/2010	10/28/2017		\$825,000.00	\$825,000.00	33 Nat. Gas Heavy-Duty Vehicles	\$0.00	Yes
ML09034	City of La Palma	11/25/2009	6/24/2015		\$25,000.00	\$25,000.00	1 LPG Heavy-Duty Vehicle	\$0.00	Yes
ML09035	City of Fullerton	6/17/2010	6/16/2017	12/16/2018	\$450,000.00	\$450,000.00	2 Heavy-Duty CNG Vehicles & Install CNG	\$0.00	Yes
ML09037	City of Redondo Beach	6/18/2010	6/17/2016		\$50,000.00	\$50,000.00	Purchase Two CNG Sweepers	\$0.00	Yes
ML09038	City of Chino	9/27/2010	5/26/2017		\$250,000.00	\$250,000.00	Upgrade Existing CNG Station	\$0.00	Yes
ML09041	City of Los Angeles, Bureau of Sanit	10/1/2010	9/30/2017		\$875,000.00	\$875,000.00	Purchase 35 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML09042	Los Angeles Department of Water a	12/10/2010	12/9/2017		\$1,400,000.00	\$1,400,000.00	Purchase 56 Dump Trucks	\$0.00	Yes
ML09043	City of Covina	10/8/2010	4/7/2017	10/7/2018	\$179,591.00	\$179,591.00	Upgrade Existing CNG Station	\$0.00	Yes
ML09046	City of Newport Beach	5/20/2010	5/19/2016		\$162,500.00	\$162,500.00	Upgrade Existing CNG Station, Maintenance	\$0.00	Yes

Total: 15

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2009-2010 Contracts

Open Contracts

MS10005	Domestic Linen Supply Company, In	10/8/2010	7/7/2016		\$47,444.00	\$0.00	Purchase 5 Gas-Electric Hybrid Vehicles	\$47,444.00	No
MS10015	County of Los Angeles Department o	3/14/2014	5/13/2016		\$37,955.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$37,955.00	No

Total: 2

Declined/Cancelled Contracts

MS10003	City of Sierra Madre	5/11/2012	3/10/2018		\$13,555.00	\$0.00	Purchase 1 H.D. CNG Vehicle	\$13,555.00	No
MS10013	City of San Bernardino				\$68,834.00	\$0.00	Purchase 9 H.D. LNG Vehicles	\$68,834.00	No
MS10014	Serv-Wel Disposal				\$18,977.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$18,977.00	No
MS10018	Shaw Transport Inc.				\$81,332.00	\$0.00	Purchase 6 H.D. LNG Vehicles	\$81,332.00	No
MS10022	Los Angeles World Airports				\$123,353.00	\$0.00	Purchase 13 H.D. CNG Vehicles	\$123,353.00	No
MS10023	Dix Leasing				\$105,000.00	\$0.00	Purchase 3 H.D. LNG Vehicles	\$105,000.00	No

Total: 6

Closed Contracts

MS10001	Los Angeles County MTA	3/19/2010	2/28/2011	4/28/2011	\$300,000.00	\$196,790.61	Clean Fuel Transit Bus Service to Dodger St	\$103,209.39	Yes
MS10002	Coachella Valley Association of Gov	6/18/2010	2/17/2011		\$400,000.00	\$400,000.00	Coachella Valley PM10 Reduction Street Sw	\$0.00	Yes
MS10025	Elham Shirazi	2/18/2011	10/17/2012	2/17/2014	\$199,449.00	\$188,413.05	Telework Demonstration Program	\$11,035.95	No

Total: 3

Open/Complete Contracts

MS10004	Linde LLC	3/2/2012	6/1/2018		\$56,932.00	\$56,931.00	Purchase 6 H.D. CNG Vehicles	\$1.00	Yes
MS10006	Nationwide Environmental Services	11/19/2010	4/18/2017	9/18/2019	\$94,887.00	\$94,887.00	Purchase Three Street Sweepers	\$0.00	Yes
MS10007	Enterprise Rent-A-Car Company of L	7/15/2011	10/14/2017		\$18,976.00	\$18,976.00	Purchase 2 H.D. CNG Vehicles	\$0.00	No
MS10008	Republic Services, Inc.	12/10/2010	5/9/2017		\$123,354.00	\$123,354.00	Purchase 4 CNG Refuse Collection Vehicles	\$0.00	Yes
MS10009	Ware Disposal Company, Inc.	10/29/2010	3/28/2017		\$123,353.00	\$123,352.00	Purchase 4 CNG Refuse Trucks	\$1.00	No
MS10010	New Bern Transport Corporation	10/29/2010	3/28/2017		\$113,864.00	\$113,864.00	Repower 4 Heavy-Duty Vehicles	\$0.00	Yes
MS10011	Foothill Transit Agency	3/9/2012	2/8/2018		\$113,865.00	\$113,865.00	Purchase 12 H.D. CNG Vehicles	\$0.00	Yes
MS10012	Foothill Transit Agency	3/9/2012	3/8/2019		\$85,392.00	\$85,392.00	Purchase 9 H.D. Electric Vehicles	\$0.00	Yes
MS10016	Rio Hondo Community College	11/5/2010	5/4/2017		\$16,077.00	\$16,077.00	Purchase 1 CNG Shuttle Bus	\$0.00	Yes
MS10017	Ryder System Inc.	12/30/2011	6/29/2018	12/29/2018	\$651,377.00	\$651,377.00	Purchase 19 H.D. Natural Gas Vehicles	\$0.00	Yes
MS10019	EDCO Disposal Corporation	11/19/2010	2/18/2017		\$379,549.00	\$379,283.81	Purchase 11 H.D. CNG Refuse Trucks	\$265.19	Yes
MS10020	American Reclamation, Inc.	5/6/2011	2/5/2018		\$18,977.00	\$18,977.00	Purchase 1 H.D. CNG Vehicle	\$0.00	Yes
MS10021	City of Glendora	10/29/2010	11/28/2016		\$9,489.00	\$9,489.00	Purchase 1 H.D. CNG Vehicle	\$0.00	Yes
MS10024	Frito-Lay North America	7/29/2011	9/28/2017		\$47,444.00	\$47,444.00	Purchase 5 Electric Vehicles	\$0.00	Yes

Total: 14

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2010-2011 Contracts

Open Contracts

ML11020	City of Indio	2/1/2013	3/31/2019	9/30/2019	\$30,000.00	\$0.00	Retrofit one H.D. Vehicles w/DECS, repower	\$30,000.00	No
ML11023	City of Rancho Cucamonga	4/20/2012	12/19/2018	9/19/2020	\$260,000.00	\$60,000.00	Expand Existing CNG Station, 2 H.D. Vehicl	\$200,000.00	No
ML11024	County of Los Angeles, Dept of Publi	12/5/2014	6/4/2022		\$90,000.00	\$0.00	Purchase 3 Nat. Gas H.D. Vehicles	\$90,000.00	No
ML11025	County of Los Angeles Department o	3/14/2014	9/13/2021		\$150,000.00	\$0.00	Purchase 5 Nat. Gas H.D. Vehicles	\$150,000.00	No
ML11027	City of Los Angeles, Dept. of Genera	5/4/2012	7/3/2015		\$300,000.00	\$0.00	Maintenance Facility Modifications	\$300,000.00	No
ML11029	City of Santa Ana	9/7/2012	3/6/2020		\$262,500.00	\$0.00	Expansion of Existing CNG Station, Install N	\$262,500.00	No
ML11032	City of Gardena	3/2/2012	9/1/2018		\$102,500.00	\$0.00	Modify Maint. Facility, Expand CNG station,	\$102,500.00	No
ML11036	City of Riverside	1/27/2012	1/26/2019	3/26/2021	\$670,000.00	\$0.00	Install New CNG Station, Purchase 9 H.D. N	\$670,000.00	No
ML11038	City of Santa Monica	5/18/2012	7/17/2018		\$400,000.00	\$0.00	Maintenance Facility Modifications	\$400,000.00	No
ML11040	City of South Pasadena	5/4/2012	1/3/2019		\$30,000.00	\$0.00	Purchase 1 Nat. Gas H.D. Vehicle	\$30,000.00	No
ML11041	City of Santa Ana	9/7/2012	11/6/2018	5/6/2020	\$265,000.00	\$34,651.86	Purchase 7 LPG H.D. Vehicles, Retrofit 6 H.	\$230,348.14	No
ML11045	City of Newport Beach	2/3/2012	8/2/2018	8/2/2020	\$30,000.00	\$0.00	Purchase 1 Nat. Gas H.D. Vehicle	\$30,000.00	No
MS11001	Mineral LLC	4/22/2011	4/30/2013	4/30/2015	\$111,827.00	\$102,836.83	Design, Develop, Host and Maintain MSRC	\$8,990.17	No
MS11010	Border Valley Trading	8/26/2011	10/25/2017	4/25/2020	\$150,000.00	\$0.00	New LNG Station	\$150,000.00	No
MS11016	CR&R Incorporated	4/12/2013	10/11/2019		\$100,000.00	\$90,000.00	New CNG Station - Perris	\$10,000.00	No
MS11019	City of Corona	11/29/2012	4/28/2020		\$225,000.00	\$0.00	Expansion of Existing CNG Station	\$225,000.00	No
MS11056	The Better World Group	12/30/2011	12/29/2013	12/29/2015	\$206,836.00	\$154,318.71	Programmatic Outreach Services	\$52,517.29	No
MS11060	Rowland Unified School District	8/17/2012	1/16/2019	1/16/2020	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS11061	Eastern Municipal Water District	3/29/2012	5/28/2015		\$11,659.00	\$1,450.00	Retrofit One Off-Road Vehicle under Showc	\$10,209.00	No
MS11062	Load Center	9/7/2012	1/6/2016	12/6/2016	\$175,384.00	\$169,883.00	Retrofit Six Off-Road Vehicles under Showc	\$5,501.00	No
MS11065	Temecula Valley Unified School Distr	8/11/2012	1/10/2019		\$50,000.00	\$0.00	Expansion of Existing CNG Station	\$50,000.00	No
MS11067	City of Redlands	5/24/2012	11/23/2018	11/23/2019	\$85,000.00	\$0.00	Expansion of Existing CNG Station	\$85,000.00	No
MS11068	Ryder System Inc.	7/28/2012	10/27/2018		\$175,000.00	\$157,500.00	New Public Access L/CNG Station (Fontana	\$17,500.00	No
MS11069	Ryder System Inc.	7/28/2012	8/27/2018		\$175,000.00	\$157,500.00	New Public Access L/CNG Station (Orange)	\$17,500.00	No
MS11071	City of Torrance Transit Department	12/22/2012	1/21/2019	1/21/2020	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS11076	SA Recycling, LLC	5/24/2012	9/23/2015		\$424,801.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$424,801.00	No
MS11081	Metropolitan Stevedore Company	9/7/2012	1/6/2016		\$45,416.00	\$0.00	Install DECS on Two Off-Road Vehicles	\$45,416.00	No
MS11082	Baumot North America, LLC	8/2/2012	12/1/2015		\$65,958.00	\$4,350.00	Install DECS on Four Off-Road Vehicles	\$61,608.00	No
MS11085	City of Long Beach Fleet Services B	8/23/2013	12/22/2016		\$159,012.00	\$0.00	Retrofit Seven H.D. Off-Road Vehicles Unde	\$159,012.00	No
MS11086	DCL America Inc.	6/7/2013	10/6/2016		\$500,000.00	\$0.00	Retrofit Eight H.D. Off-Road Vehicles Under	\$500,000.00	No
MS11091	California Cartage Company, LLC	4/5/2013	8/4/2016	2/4/2018	\$55,000.00	\$0.00	Retrofit Two H.D. Off-Road Vehicles Under	\$55,000.00	No
MS11092	Griffith Company	2/15/2013	6/14/2016	12/14/2017	\$390,521.00	\$0.00	Retrofit 17 H.D. Off-Road Vehicles Under Sh	\$390,521.00	No

Total: 32

Pending Execution Contracts

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS11073	Los Angeles Unified School District				\$175,000.00	\$0.00	Expansion of Existing CNG Station	\$175,000.00	No
MS11084	Ivanhoe Energy Services and Develo				\$66,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$66,750.00	No

Total: 2

Declined/Cancelled Contracts

MS11013	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Huntington Beach	\$150,000.00	No
MS11014	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Santa Ana	\$150,000.00	No
MS11015	Go Natural Gas, Inc.				\$150,000.00	\$0.00	New CNG Station - Inglewood	\$150,000.00	No
MS11046	Luis Castro				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11047	Ivan Borjas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11048	Phase II Transportation				\$1,080,000.00	\$0.00	Repower 27 Heavy-Duty Vehicles	\$1,080,000.00	No
MS11049	Ruben Caceras				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11050	Carlos Arrue				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11051	Francisco Vargas				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11053	Jose Ivan Soltero				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11054	Albino Meza				\$40,000.00	\$0.00	Repower One Heavy-Duty Vehicle	\$40,000.00	No
MS11059	Go Natural Gas				\$150,000.00	\$0.00	New Public Access CNG Station - Paramou	\$150,000.00	No
MS11063	Standard Concrete Products				\$310,825.00	\$0.00	Retrofit Two Off-Road Vehicles under Show	\$310,825.00	No
MS11070	American Honda Motor Company				\$100,000.00	\$0.00	Expansion of Existing CNG Station	\$100,000.00	No
MS11072	Trillium USA Company DBA Californi				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS11077	DCL America Inc.				\$263,107.00	\$0.00	Retrofit of 13 Off-Road Diesel Vehicles with	\$263,107.00	No
MS11083	Catrac Construction, Inc.				\$500,000.00	\$0.00	Install DECS on Eight Off-Road Vehicles	\$500,000.00	No
MS11088	Diesel Emission Technologies				\$32,750.00	\$0.00	Retrofit Three H.D. Off-Road Vehicles Under	\$32,750.00	No
MS11089	Diesel Emission Technologies				\$9,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$9,750.00	No
MS11090	Diesel Emission Technologies				\$14,750.00	\$0.00	Retrofit One H.D. Off-Road Vehicle Under S	\$14,750.00	No

Total: 20

Closed Contracts

ML11007	Coachella Valley Association of Gov	7/29/2011	7/28/2012		\$250,000.00	\$249,999.96	Regional PM10 Street Sweeping Program	\$0.04	Yes
ML11035	City of La Quinta	11/18/2011	11/17/2012		\$25,368.00	\$25,368.00	Retrofit 3 On-Road Vehicles w/DECS	\$0.00	Yes
MS11002	A-Z Bus Sales, Inc.	7/15/2011	12/31/2011	6/30/2013	\$1,705,000.00	\$1,705,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS11003	BusWest	7/26/2011	12/31/2011	12/31/2012	\$1,305,000.00	\$1,305,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	Yes
MS11004	Los Angeles County MTA	9/9/2011	2/29/2012		\$450,000.00	\$299,743.34	Clean Fuel Transit Service to Dodger Stadiu	\$150,256.66	Yes
MS11006	Orange County Transportation Autho	10/7/2011	2/29/2012	8/31/2012	\$268,207.00	\$160,713.00	Metrolink Service to Angel Stadium	\$107,494.00	Yes
MS11018	Orange County Transportation Autho	10/14/2011	1/31/2012		\$211,360.00	\$211,360.00	Express Bus Service to Orange County Fair	\$0.00	Yes
MS11052	Krisda Inc	9/27/2012	6/26/2013		\$120,000.00	\$120,000.00	Repower Three Heavy-Duty Vehicles	\$0.00	Yes
MS11057	Riverside County Transportation Co	7/28/2012	3/27/2013		\$100,000.00	\$89,159.40	Develop and Implement 511 "Smart Phone"	\$10,840.60	Yes
MS11058	L A Service Authority for Freeway E	5/31/2013	4/30/2014		\$123,395.00	\$123,395.00	Implement 511 "Smart Phone" Application	\$0.00	No
MS11074	SunLine Transit Agency	5/11/2012	7/31/2012		\$41,849.00	\$22,391.00	Transit Service for Coachella Valley Festival	\$19,458.00	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS11080	Southern California Regional Rail Au	4/6/2012	7/31/2012		\$26,000.00	\$26,000.00	Metrolink Service to Auto Club Speedway	\$0.00	Yes
Total: 12									
Closed/Incomplete Contracts									
MS11064	City of Hawthorne	7/28/2012	8/27/2018	8/27/2019	\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
Total: 1									
Open/Complete Contracts									
ML11021	City of Whittier	1/27/2012	9/26/2018	6/26/2019	\$210,000.00	\$210,000.00	Purchase 7 Nat. Gas H.D. Vehicles	\$0.00	No
ML11022	City of Anaheim	3/16/2012	7/15/2018		\$150,000.00	\$150,000.00	Purchase of 5 H.D. Vehicles	\$0.00	No
ML11026	City of Redlands	3/2/2012	10/1/2018		\$90,000.00	\$90,000.00	Purchase 3 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11028	City of Glendale	1/13/2012	5/12/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. CNG Vehicles	\$0.00	Yes
ML11030	City of Fullerton	2/3/2012	3/2/2018		\$109,200.00	\$109,200.00	Purchase 2 Nat. Gas H.D. Vehicles, Retrofit	\$0.00	Yes
ML11031	City of Culver City Transportation De	12/2/2011	12/1/2018		\$300,000.00	\$300,000.00	Purchase 10 H.D. Nat. Gas Vehicles	\$0.00	Yes
ML11033	City of Los Angeles, Bureau of Sanit	3/16/2012	1/15/2019		\$1,080,000.00	\$1,080,000.00	Purchase 36 LNG H.D. Vehicles	\$0.00	Yes
ML11034	City of Los Angeles, Department of	5/4/2012	1/3/2019		\$630,000.00	\$630,000.00	Purchase 21 H.D. CNG Vehicles	\$0.00	No
ML11037	City of Anaheim	12/22/2012	12/21/2019		\$300,000.00	\$300,000.00	Purchase 12 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11039	City of Ontario, Housing & Municipal	1/27/2012	9/26/2018		\$180,000.00	\$180,000.00	Purchase 6 Nat. Gas H.D. Vehicles	\$0.00	Yes
ML11042	City of Chino	2/17/2012	4/16/2018		\$30,000.00	\$30,000.00	Purchase 1 Nat. Gas H.D. Vehicle, Repower	\$0.00	No
ML11043	City of Hemet Public Works	2/3/2012	2/2/2019		\$60,000.00	\$60,000.00	Purchase 2 H.D. Nat. Gas Vehicles	\$0.00	No
ML11044	City of Ontario, Housing & Municipal	1/27/2012	6/26/2019		\$400,000.00	\$400,000.00	Expand Existing CNG Station	\$0.00	Yes
MS11008	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11009	USA Waste of California, Inc.	10/24/2013	4/23/2020		\$125,000.00	\$125,000.00	Expansion of Existing LCNG Station	\$0.00	Yes
MS11011	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Signal Hill	\$0.00	Yes
MS11012	EDCO Disposal Corporation	12/30/2011	4/29/2019		\$100,000.00	\$100,000.00	New CNG Station - Buena Park	\$0.00	Yes
MS11017	CR&R, Inc.	3/2/2012	2/1/2018		\$100,000.00	\$100,000.00	Expansion of existing station - Garden Grov	\$0.00	Yes
MS11055	KEC Engineering	2/3/2012	8/2/2018	8/2/2019	\$200,000.00	\$200,000.00	Repower 5 H.D. Off-Road Vehicles	\$0.00	Yes
MS11066	Torrance Unified School District	11/19/2012	9/18/2018		\$42,296.00	\$42,296.00	Expansion of Existing CNG Station	\$0.00	Yes
MS11079	Bear Valley Unified School District	2/5/2013	10/4/2019		\$175,000.00	\$175,000.00	New Limited Access CNG Station	\$0.00	Yes
MS11087	Cemex Construction Material Pacific,	10/16/2012	2/15/2016		\$448,766.00	\$448,760.80	Retrofit 13 H.D. Off-Road Vehicles Under Sh	\$5.20	Yes
Total: 22									

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
FY 2011-2012 Contracts									
Open Contracts									
ML12013	City of Pasadena	10/19/2012	3/18/2015	9/18/2015	\$200,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$200,000.00	No
ML12014	City of Santa Ana	11/8/2013	8/7/2020		\$384,000.00	\$4,709.00	9 H.D. Nat. Gas & LPG Trucks, EV Charging	\$379,291.00	No
ML12015	City of Fullerton	4/25/2013	11/24/2020		\$40,000.00	\$10,000.00	HD CNG Vehicle, Expand CNG Station	\$30,000.00	No
ML12016	City of Cathedral City	1/4/2013	10/3/2019		\$60,000.00	\$0.00	CNG Vehicle & Electric Vehicle Infrastructur	\$60,000.00	No
ML12017	City of Los Angeles, Bureau of Sanit	6/26/2013	5/25/2020	11/25/2021	\$950,000.00	\$0.00	32 H.D. Nat. Gas Vehicles	\$950,000.00	No
ML12018	City of West Covina	10/18/2013	10/17/2020		\$300,000.00	\$0.00	Expansion of Existing CNG Station	\$300,000.00	No
ML12019	City of Palm Springs	9/6/2013	7/5/2015		\$38,000.00	\$0.00	EV Charging Infrastructure	\$38,000.00	No
ML12020	City of Los Angeles, Department of	9/27/2012	3/26/2019		\$450,000.00	\$0.00	15 H.D. Nat. Gas Vehicles	\$450,000.00	No
ML12021	City of Rancho Cucamonga	9/14/2012	1/13/2020		\$40,000.00	\$40,000.00	Four Medium-Duty Nat. Gas Vehicles	\$0.00	No
ML12022	City of La Puente	12/6/2013	6/5/2020		\$110,000.00	\$100,000.00	2 Medium-Duty and Three Heavy-Duty CNG	\$10,000.00	No
ML12041	City of Anaheim Public Utilities Depa	4/4/2014	10/3/2015		\$68,977.00	\$0.00	EV Charging Infrastructure	\$68,977.00	No
ML12043	City of Hemet	6/24/2013	9/23/2019		\$60,000.00	\$0.00	Two Heavy-Duty Nat. Gas Vehicles	\$60,000.00	No
ML12045	City of Baldwin Park DPW	2/14/2014	12/13/2020		\$400,000.00	\$0.00	Install New CNG Station	\$400,000.00	No
ML12046	City of Irvine	8/11/2013	3/10/2021		\$30,000.00	\$0.00	One Heavy-Duty Nat. Gas Vehicle	\$30,000.00	No
ML12048	City of La Palma	1/4/2013	11/3/2018		\$20,000.00	\$0.00	Two Medium-Duty LPG Vehicles	\$20,000.00	No
ML12049	City of Rialto Public Works	7/14/2014	9/13/2015		\$30,432.00	\$0.00	EV Charging Infrastructure	\$30,432.00	No
ML12051	City of Bellflower	2/7/2014	2/6/2016		\$270,000.00	\$0.00	EV Charging Infrastructure	\$270,000.00	No
ML12052	City of Whittier	3/14/2013	7/13/2019		\$165,000.00	\$0.00	Expansion of Existing CNG Station	\$165,000.00	No
ML12057	City of Coachella	8/28/2013	8/27/2019		\$57,456.00	\$0.00	Purchase One Nat. Gas H.D. Vehicle/Street	\$57,456.00	No
ML12066	City of Manhattan Beach	1/7/2014	4/6/2015		\$5,900.00	\$5,900.00	Electric Vehicle Charging Infrastructure	\$0.00	No
MS12001	Los Angeles County MTA	7/1/2012	4/30/2013		\$300,000.00	\$0.00	Clean Fuel Transit Service to Dodger Stadiu	\$300,000.00	No
MS12004	USA Waste of California, Inc.	10/24/2013	11/23/2019		\$175,000.00	\$0.00	Construct New Limited-Access CNG Station	\$175,000.00	No
MS12008	Bonita Unified School District	7/12/2013	12/11/2019		\$175,000.00	\$0.00	Construct New Limited-Acess CNG Station	\$175,000.00	No
MS12009	Sysco Food Services of Los Angeles	1/7/2014	4/6/2020		\$150,000.00	\$0.00	Construct New Public-Access CNG Station	\$150,000.00	No
MS12011	Southern California Gas Company	6/14/2013	6/13/2019	6/13/2020	\$150,000.00	\$0.00	Construct New Public-Access CNG Station -	\$150,000.00	No
MS12024	Southern California Gas Company	6/13/2013	12/12/2019		\$150,000.00	\$0.00	Construct New Public-Access CNG Station -	\$150,000.00	No
MS12027	C.V. Ice Company, Inc.	5/17/2013	11/16/2019		\$75,000.00	\$0.00	Purchase 3 Medium-Heavy Duty Vehicles	\$75,000.00	No
MS12029	Community Action Partnership of Or	11/2/2012	11/1/2018		\$25,000.00	\$14,850.00	Purchase 1 Medium-Heavy Duty Vehicle	\$10,150.00	No
MS12031	Final Assembly, Inc.	11/2/2012	11/1/2018		\$100,000.00	\$29,201.40	Purchase 4 Medium-Heavy Duty Vehicles	\$70,798.60	No
MS12033	Mike Diamond/Phace Management	12/22/2012	12/21/2018		\$500,000.00	\$21,735.00	Purchase 20 Medium-Heavy Duty Vehicles	\$478,265.00	No
MS12034	Ware Disposal Company, Inc.	11/2/2012	11/1/2018	11/1/2020	\$133,070.00	\$74,763.00	Purchase 8 Medium-Heavy Duty Vehicles	\$58,307.00	No
MS12060	City of Santa Monica	4/4/2014	8/3/2017		\$500,000.00	\$0.00	Transit-Oriented Bicycle Sharing Program	\$500,000.00	No
MS12061	Orange County Transportation Autho	3/14/2014	3/13/2017		\$224,000.00	\$81,604.80	Transit-Oriented Bicycle Sharing Program	\$142,395.20	No
MS12064	Anaheim Transportation Network	3/26/2013	12/31/2014		\$127,296.00	\$52,781.04	Implement Anaheim Circulator Service	\$74,514.96	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS12067	Leatherwood Construction, Inc.	11/8/2013	3/7/2017		\$122,719.00	\$0.00	Retrofit Six Vehicles w/DECS - Showcase III	\$122,719.00	No
MS12072	99 Cents Only Stores	4/5/2013	9/4/2019		\$100,000.00	\$0.00	Construct New CNG Station	\$100,000.00	No
MS12073	FirstCNG, LLC	7/27/2013	12/26/2019		\$150,000.00	\$135,000.00	Construct New CNG Station	\$15,000.00	No
MS12075	CR&R Incorporated	7/27/2013	1/26/2021		\$100,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$100,000.00	No
MS12077	City of Coachella	6/14/2013	6/13/2020		\$225,000.00	\$0.00	Construct New CNG Station	\$225,000.00	No
MS12078	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Vernon	\$75,000.00	No
MS12079	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Boyle H	\$75,000.00	No
MS12080	City of Pasadena	11/8/2013	8/7/2020	8/7/2021	\$225,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$225,000.00	No
MS12081	Penske Truck Leasing Co., L.P.	1/7/2014	1/6/2016		\$75,000.00	\$0.00	Maintenance Facility Modifications - Santa A	\$75,000.00	No
MS12082	City of Los Angeles, Bureau of Sanit	11/20/2013	2/19/2021		\$175,000.00	\$0.00	Install New CNG Infrastructure	\$175,000.00	No
MS12084	Airport Mobil Inc.	12/6/2013	5/5/2020		\$150,000.00	\$0.00	Install New CNG Infrastructure	\$150,000.00	No
MS12086	SuperShuttle International, Inc.	3/26/2013	3/25/2019		\$225,000.00	\$202,500.00	Purchase 23 Medium-Heavy Duty Vehicles	\$22,500.00	No
MS12087	Los Angeles County MTA	8/29/2013	11/28/2015		\$125,000.00	\$125,000.00	Implement Rideshare Incentives Program	\$0.00	Yes
MS12088	Orange County Transportation Autho	12/6/2013	3/5/2016		\$125,000.00	\$0.00	Implement Rideshare Incentives Program	\$125,000.00	No
MS12089	Riverside County Transportation Co	10/18/2013	9/17/2015		\$250,000.00	\$0.00	Implement Rideshare Incentives Program	\$250,000.00	No
MS12Hom	Mansfield Gas Equipment Systems				\$296,000.00	\$0.00	Home Refueling Apparatus Incentive Progra	\$296,000.00	No

Total: 50

Pending Execution Contracts

MS12083	Brea Olinda Unified School District				\$59,454.00	\$0.00	Install New CNG Infrastructure	\$59,454.00	No
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Total: 1

Declined/Cancelled Contracts

ML12038	City of Long Beach Public Works				\$26,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$26,000.00	No
ML12040	City of Duarte Transit				\$30,000.00	\$0.00	One Heavy-Duty Nat. Gas Vehicle	\$30,000.00	No
ML12044	County of San Bernardino Public Wo				\$250,000.00	\$0.00	Install New CNG Station	\$250,000.00	No
ML12053	City of Mission Viejo				\$60,000.00	\$0.00	EV Charging Infrastructure	\$60,000.00	No
MS12007	WestAir Gases & Equipment				\$100,000.00	\$0.00	Construct New Limited-Access CNG Station	\$100,000.00	No
MS12030	Complete Landscape Care, Inc.				\$150,000.00	\$0.00	Purchase 6 Medium-Heavy Duty Vehicles	\$150,000.00	No
MS12070	Valley Music Travel/CID Entertainme				\$99,000.00	\$0.00	Implement Shuttle Service to Coachella Mus	\$99,000.00	No

Total: 7

Closed Contracts

ML12023	County of Los Angeles Internal Servi	8/1/2013	2/28/2015		\$250,000.00	\$192,333.00	EV Charging Infrastructure	\$57,667.00	Yes
ML12037	Coachella Valley Association of Gov	3/14/2013	3/13/2014		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML12050	City of Baldwin Park	4/25/2013	4/24/2014	10/24/2014	\$402,400.00	\$385,363.00	EV Charging Infrastructure	\$17,037.00	No
ML12054	City of Palm Desert	9/30/2013	2/28/2015		\$77,385.00	\$77,385.00	EV Charging Infrastructure	\$0.00	Yes
ML12056	City of Cathedral City	3/26/2013	5/25/2014		\$25,000.00	\$25,000.00	Regional Street Sweeping Program	\$0.00	Yes
MS12002	Orange County Transportation Autho	9/7/2012	4/30/2013		\$342,340.00	\$333,185.13	Express Bus Service to Orange County Fair	\$9,154.87	Yes
MS12003	Orange County Transportation Autho	7/20/2012	2/28/2013		\$234,669.00	\$167,665.12	Implement Metrolink Service to Angel Stadiu	\$67,003.88	Yes

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS12005	USA Waste of California, Inc.	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12006	Waste Management Collection & Re	10/19/2012	8/18/2013		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12012	Rim of the World Unified School Dist	12/20/2012	5/19/2014		\$75,000.00	\$75,000.00	Vehicle Maintenance Facility Modifications	\$0.00	Yes
MS12059	Orange County Transportation Autho	2/28/2013	12/27/2014		\$75,000.00	\$75,000.00	Maintenance Facilities Modifications	\$0.00	No
MS12062	Fraser Communications	12/7/2012	5/31/2014		\$998,669.00	\$989,218.49	Develop & Implement "Rideshare Thursday"	\$9,450.51	Yes
MS12065	Orange County Transportation Autho	7/27/2013	11/30/2013		\$43,933.00	\$14,832.93	Ducks Express Service to Honda Center	\$29,100.07	Yes
MS12068	Southern California Regional Rail Au	3/1/2013	9/30/2013		\$57,363.00	\$47,587.10	Implement Metrolink Service to Autoclub Sp	\$9,775.90	Yes
MS12069	City of Irvine	8/11/2013	2/28/2014		\$45,000.00	\$26,649.41	Implement Special Transit Service to Solar	\$18,350.59	Yes
MS12085	Bear Valley Unified School District	4/25/2013	6/24/2014		\$75,000.00	\$75,000.00	Maintenance Facility Modifications	\$0.00	Yes

Total: 16

Open/Complete Contracts

ML12039	City of Redlands	2/8/2013	10/7/2019		\$90,000.00	\$90,000.00	Three Heavy-Duty Nat. Gas Vehicles	\$0.00	No
ML12042	City of Chino Hills	1/18/2013	3/17/2017		\$87,500.00	\$87,500.00	Expansion of Existing CNG Station	\$0.00	Yes
ML12047	City of Orange	2/1/2013	1/31/2019		\$30,000.00	\$30,000.00	One Heavy-Duty Nat. Gas Vehicle	\$0.00	No
ML12055	City of Manhattan Beach	3/1/2013	12/31/2018		\$10,000.00	\$10,000.00	One Medium-Duty Nat. Gas Vehicle	\$0.00	Yes
MS12010	Murrieta Valley Unified School Distric	4/5/2013	9/4/2019		\$242,786.00	\$242,786.00	Construct New Limited-Access CNG Station	\$0.00	No
MS12025	Silverado Stages, Inc.	11/2/2012	7/1/2018		\$150,000.00	\$150,000.00	Purchase Six Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12026	U-Haul Company of California	3/14/2013	3/13/2019		\$500,000.00	\$353,048.26	Purchase 23 Medium-Heavy Duty Vehicles	\$146,951.74	Yes
MS12028	Dy-Dee Service of Pasadena, Inc.	12/22/2012	1/21/2019		\$45,000.00	\$40,000.00	Purchase 2 Medium-Duty and 1 Medium-He	\$5,000.00	Yes
MS12032	Fox Transportation	12/14/2012	12/13/2018		\$500,000.00	\$500,000.00	Purchase 20 Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12035	Disneyland Resort	1/4/2013	7/3/2019		\$25,000.00	\$18,900.00	Purchase 1 Medium-Heavy Duty Vehicle	\$6,100.00	Yes
MS12036	Jim & Doug Carter's Automotive/VS	1/4/2013	11/3/2018		\$50,000.00	\$50,000.00	Purchase 2 Medium-Heavy Duty Vehicles	\$0.00	Yes
MS12058	Krisda Inc	4/24/2013	1/23/2019		\$25,000.00	\$25,000.00	Repower One Heavy-Duty Off-Road Vehicle	\$0.00	Yes
MS12063	Custom Alloy Light Metals, Inc.	8/16/2013	2/15/2020		\$100,000.00	\$100,000.00	Install New Limited Access CNG Station	\$0.00	Yes
MS12071	Transit Systems Unlimited, Inc.	5/17/2013	12/16/2018		\$21,250.00	\$21,250.00	Expansion of Existing CNG Station	\$0.00	Yes
MS12074	Arcadia Unified School District	7/5/2013	9/4/2019		\$175,000.00	\$175,000.00	Expansion of Existing CNG Infrastructure	\$0.00	No
MS12076	City of Ontario, Housing & Municipal	3/8/2013	4/7/2015		\$75,000.00	\$75,000.00	Maintenance Facilities Modification	\$0.00	Yes

Total: 16

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
FY 2012-2014 Contracts									
Open Contracts									
ML14011	City of Palm Springs	6/13/2014	1/12/2016		\$79,000.00	\$0.00	Bicycle Racks, Bicycle Outreach & Educatio	\$79,000.00	No
ML14012	City of Santa Ana	2/13/2015	10/12/2021		\$244,000.00	\$0.00	EV Charging and 7 H.D. LPG Vehicles	\$244,000.00	No
ML14014	City of Torrance	9/5/2014	12/4/2019		\$56,000.00	\$0.00	EV Charging Infrastructure	\$56,000.00	No
ML14015	Coachella Valley Association of Gov	6/6/2014	9/5/2015		\$250,000.00	\$250,000.00	Street Sweeping Operations	\$0.00	Yes
ML14018	City of Los Angeles, Department of	3/6/2015	9/5/2021		\$810,000.00	\$0.00	Purchase 27 H.D. Nat. Gas Vehicles	\$810,000.00	No
ML14019	City of Corona Public Works	12/5/2014	6/4/2020		\$178,263.00	\$0.00	EV Charging, Bicycle Racks, Bicycle Locker	\$178,263.00	No
ML14020	County of Los Angeles Dept of Publi	8/13/2014	1/12/2018		\$150,000.00	\$0.00	San Gabriel BikeTrail Underpass Improvem	\$150,000.00	No
ML14021	Riverside County Regional Park and	7/24/2014	12/23/2016		\$250,000.00	\$0.00	Bicycle Trail Improvements	\$250,000.00	No
ML14028	City of Fullerton	9/5/2014	1/4/2022		\$126,950.00	\$0.00	Expansion of Existing CNG Infrastructure	\$126,950.00	No
ML14029	City of Irvine	7/11/2014	6/10/2017		\$90,500.00	\$0.00	Bicycle Trail Improvements	\$90,500.00	No
ML14030	County of Los Angeles Internal Servi	1/9/2015	3/8/2018		\$425,000.00	\$0.00	Bicycle Racks, Outreach & Education	\$425,000.00	No
ML14031	Riverside County Waste Manageme	6/13/2014	12/12/2020		\$90,000.00	\$0.00	Purchase 3 H.D. CNG Vehicles	\$90,000.00	No
ML14032	City of Rancho Cucamonga	1/9/2015	1/8/2022		\$226,770.00	\$18,110.88	Expansion of Existing CNG Infrasn., Bicycle L	\$208,659.12	No
ML14033	City of Irvine	7/11/2014	2/10/2021		\$60,000.00	\$0.00	Purchase 2 H.D. CNG Vehicles	\$60,000.00	No
ML14034	City of Lake Elsinore	9/5/2014	5/4/2021		\$56,700.00	\$0.00	EV Charging Stations	\$56,700.00	No
ML14049	City of Moreno Valley	7/11/2014	3/10/2021		\$105,000.00	\$30,000.00	One HD Nat Gas Vehicle, EV Charging, Bicy	\$75,000.00	No
ML14050	City of Yucaipa	7/11/2014	9/10/2015		\$84,795.00	\$0.00	Installation of Bicycle Lanes	\$84,795.00	No
ML14051	City of Brea	9/5/2014	1/4/2017		\$450,000.00	\$0.00	Installation of Bicycle Trail	\$450,000.00	No
ML14054	City of Torrance	11/14/2014	4/13/2017		\$350,000.00	\$0.00	Upgrade Maintenance Facility	\$350,000.00	No
ML14055	City of Highland	10/10/2014	3/9/2018		\$500,000.00	\$0.00	Bicycle Lanes and Outreach	\$500,000.00	No
ML14056	City of Redlands	9/5/2014	5/4/2016	5/4/2017	\$125,000.00	\$0.00	Bicycle Lanes	\$125,000.00	No
ML14062	City of San Fernando	3/27/2015	5/26/2021		\$387,091.00	\$0.00	Expand Existing CNG Fueling Station	\$387,091.00	No
ML14064	City of Claremont	7/11/2014	7/10/2020	1/10/2021	\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14065	City of Orange	9/5/2014	8/4/2015		\$10,000.00	\$0.00	Electric Vehicle Charging Infrastructure	\$10,000.00	No
ML14066	City of South Pasadena	9/12/2014	7/11/2016		\$142,096.00	\$0.00	Bicycle Trail Improvements	\$142,096.00	No
ML14068	City of South Pasadena	9/12/2014	10/11/2015		\$10,183.00	\$0.00	Electric Vehicle Charging Infrastructure	\$10,183.00	No
ML14071	City of Manhattan Beach	1/9/2015	11/8/2018		\$22,485.00	\$0.00	Electric Vehicle Charging Infrastructure	\$22,485.00	No
ML14072	City of Cathedral City	8/13/2014	1/12/2021		\$136,000.00	\$0.00	Medium & H.D. Vehicles, EV Charging, Bike	\$136,000.00	No
MS14001	Los Angeles County MTA	3/6/2015	4/30/2015		\$1,227,450.00	\$0.00	Clean Fuel Transit Service to Dodger Stadiu	\$1,227,450.00	No
MS14002	Orange County Transportation Autho	9/6/2013	4/30/2014		\$576,833.00	\$576,833.00	Clean Fuel Transit Service to Orange Count	\$0.00	No
MS14004	Orange County Transportation Autho	9/24/2013	4/30/2014		\$36,800.00	\$35,485.23	Implement Express Bus Service to Solar De	\$1,314.77	No
MS14005	Transit Systems Unlimited, Inc.	4/11/2014	2/28/2016		\$515,200.00	\$253,920.00	Provide Expanded Shuttle Service to Hollyw	\$261,280.00	No
MS14007	Orange County Transportation Autho	6/6/2014	4/30/2015		\$208,520.00	\$0.00	Implement Special Metrolink Service to Ang	\$208,520.00	No
MS14008	Orange County Transportation Autho	8/13/2014	5/31/2015		\$601,187.00	\$0.00	Implement Clean Fuel Bus Service to Orang	\$601,187.00	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14009	A-Z Bus Sales, Inc.	1/17/2014	12/31/2014	3/31/2015	\$343,000.00	\$343,000.00	Alternative Fuel School Bus Incentive Progr	\$0.00	No
MS14042	Grand Central Recycling & Transfer	6/6/2014	9/5/2021		\$150,000.00	\$0.00	Expansion of Existing CNG Station	\$150,000.00	No
MS14045	TIMCO CNG Fund I, LLC	6/6/2014	12/5/2020		\$150,000.00	\$0.00	New Public-Access CNG Station in Inglewoo	\$150,000.00	No
MS14046	Ontario CNG Station Inc.	5/15/2014	5/14/2020		\$150,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$150,000.00	No
MS14048	BusWest	3/14/2014	12/31/2014	5/31/2015	\$940,850.00	\$816,850.00	Alternative Fuel School Bus Incentive Progr	\$124,000.00	No
MS14052	Arcadia Unified School District	6/13/2014	10/12/2020		\$78,000.00	\$0.00	Expansion of an Existing CNG Fueling Statio	\$78,000.00	No
MS14053	Upland Unified School District	1/9/2015	7/8/2021		\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$175,000.00	No
MS14057	Los Angeles County MTA	11/7/2014	10/6/2019		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14058	Orange County Transportation Autho	11/7/2014	4/6/2016		\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14059	Riverside County Transportation Co	9/5/2014	3/4/2018		\$939,625.00	\$0.00	Implement Various Signal Synchronization P	\$939,625.00	No
MS14073	Anaheim Transportation Network	1/9/2015	4/30/2017		\$221,312.00	\$63,221.60	Anaheim Resort Circulator Service	\$158,090.40	No
MS14074	Midway City Sanitary District	1/9/2015	3/8/2021		\$250,000.00	\$0.00	Limited-Access CNG Station & Facility Modif	\$250,000.00	No
MS14077	County Sanitation Districts of L.A. C	3/6/2015	5/5/2021		\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No

Total: 47

Pending Execution Contracts

ML14013	City of Los Angeles, Bureau of Sanit				\$3,840,000.00	\$0.00	Purchase 128 H.D. Nat. Gas Vehicles	\$3,840,000.00	No
ML14016	City of Anaheim				\$380,000.00	\$0.00	Purchase 2 H.D. Vehicles, Expansion of Exi	\$380,000.00	No
ML14022	County of Los Angeles Department o				\$300,000.00	\$0.00	Purchase 10 H.D. Nat. Gas Vehicles	\$300,000.00	No
ML14023	County of Los Angeles Department o				\$230,000.00	\$0.00	Maintenance Fac. Modifications-Westcheste	\$230,000.00	No
ML14024	County of Los Angeles Department o				\$230,000.00	\$0.00	Maintenance Fac. Modifications-Baldwin Par	\$230,000.00	No
ML14025	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Malibu	\$500,000.00	No
ML14026	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Castaic	\$500,000.00	No
ML14027	County of Los Angeles Dept of Publi				\$500,000.00	\$0.00	Construct New CNG Station in Downey	\$500,000.00	No
ML14060	County of Los Angeles Internal Servi				\$104,400.00	\$0.00	Electric Vehicle Charging Infrastructure	\$104,400.00	No
ML14061	City of La Habra				\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14067	City of Duarte Transit				\$60,000.00	\$0.00	Purchase Two Heavy-Duty Nat. Gas Vehicle	\$60,000.00	No
ML14069	City of Beaumont				\$200,000.00	\$0.00	Construct New CNG Infrastructure	\$200,000.00	No
ML14070	City of Rancho Cucamonga				\$365,245.00	\$0.00	Bicycle Trail Improvements	\$365,245.00	No
MS14035	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Sun Valle	\$75,000.00	No
MS14036	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - La Mirad	\$75,000.00	No
MS14037	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Carson	\$75,000.00	No
MS14038	Penske Truck Leasing Co., L.P.				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Fontana	\$75,000.00	No
MS14039	Waste Management Collection and				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Irvine	\$75,000.00	No
MS14040	Waste Management Collection and				\$75,000.00	\$0.00	Vehicle Maint. Fac. Modifications - Santa An	\$75,000.00	No
MS14041	USA Waste of California, Inc.				\$175,000.00	\$0.00	Limited-Access CNG Station, Vehicle Maint.	\$175,000.00	No
MS14072	San Bernardino Associated Govern				\$1,250,000.00	\$0.00	Implement Various Signal Synchronization P	\$1,250,000.00	No
MS14075	Fullerton Joint Union High School Di				\$300,000.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$300,000.00	No

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
MS14076	Rialto Unified School District				\$225,000.00	\$0.00	New Public Access CNG Station	\$225,000.00	No
MS14078	American Honda Motor Co., Inc.				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14079	Waste Resources, Inc.				\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No
MS14080	CR&R Incorporated				\$249,954.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$249,954.00	No
MS14081	CR&R Incorporated				\$175,000.00	\$0.00	Expansion of Existing CNG Infrastructure/M	\$175,000.00	No
MS14082	Grand Central Recycling & Transfer				\$150,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$150,000.00	No
MS14083	Hacienda La Puente Unified School				\$175,000.00	\$0.00	New Limited Access CNG Station	\$175,000.00	No
MS14084	US Air Conditioning Distributors				\$100,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$100,000.00	No
MS14085	Prologis, L.P.				\$100,000.00	\$0.00	New Limited Access CNG Station	\$100,000.00	No
MS14086	San Gabriel Valley Towing I				\$150,000.00	\$0.00	New Public Access CNG Station	\$150,000.00	No
MS14087	Orange County Transportation Autho				\$239,645.00	\$0.00	Implement Special Metrolink Service to Ang	\$239,645.00	No
MS14088	Southern California Regional Rail Au				\$83,960.00	\$0.00	Special Metrolink Service to Autoclub Speed	\$83,960.00	No
MS14090	City of Monterey Park				\$225,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$225,000.00	No
MS14091	Serv-Wel Disposal				\$100,000.00	\$0.00	New Limited-Access CNG Infrastructure	\$100,000.00	No
MS14092	West Covina Unified School District				\$124,000.00	\$0.00	Expansion of Existing CNG Infrastructure	\$124,000.00	No

Total: 37

Declined/Cancelled Contracts

ML14063	City of Hawthorne				\$32,000.00	\$0.00	Expansion of Existng CNG Infrastructure	\$32,000.00	No
MS14043	City of Anaheim				\$175,000.00	\$0.00	Expansion of Existing CNG Station	\$175,000.00	No

Total: 2

Closed Contracts

MS14003	Orange County Transportation Autho	8/1/2013	4/30/2014	10/30/2014	\$194,235.00	\$184,523.00	Implement Metrolink Service to Angel Stadiu	\$9,712.00	Yes
MS14047	Southern California Regional Rail Au	3/7/2014	9/30/2014		\$49,203.00	\$32,067.04	Special Metrolink Service to Autoclub Speed	\$17,135.96	Yes

Total: 2

Open/Complete Contracts

ML14010	City of Cathedral City	8/13/2014	10/12/2015		\$25,000.00	\$25,000.00	Street Sweeping Operations	\$0.00	No
MS14044	TIMCO CNG Fund I, LLC	5/2/2014	11/1/2020		\$150,000.00	\$150,000.00	New Public-Access CNG Station in Santa A	\$0.00	Yes

Total: 2

Cont.#	Contractor	Start Date	Original End Date	Amended End Date	Contract Value	Remitted	Project Description	Award Balance	Billing Complete?
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FY 2014-2016 Contracts

Open Contracts

MS14089	Top Shelf Consulting, LLC	2/5/2015	8/4/2016		\$200,000.00	\$80,033.00	Enhanced Fleet Modernization Program	\$119,967.00	No
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Total: 1

 [Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 26

REPORT: California Air Resources Board Monthly Meeting

SYNOPSIS: The California Air Resources Board met on April 23, 2015, in Sacramento. The following is a summary of this meeting.

RECOMMENDED ACTION:

Receive and File.

Judith Mitchell, Member
SCAQMD Governing Board

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The Air Resources Board's (ARB or Board) April meeting was held on April 23 in Sacramento at the California Environmental Protection Agency Headquarters Building. Key items presented are summarized below.

Discussion Items

1. Fifth Annual Report from the Office of the Ombudsman

The Board heard a presentation by the Ombudsman on enhancements to the Ombudsman's office that have occurred during the last five years and the office's focus going forward. The Ombudsman is responsible for connecting with California small business owners and related stakeholders and engaging them on ARB policies and regulations. The Ombudsman's office has improved compliance assistance and outreach for major ARB programs including Refrigeration Management and Truck and Bus, and has established the Small Business Opportunities Advisory Panel which will be a large part of activities in the future.

2. Public Hearing to Consider Amendments to Certification Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities: Aboveground Storage Tanks and Enhanced Conventional Nozzles

The Board adopted amendments to the gasoline vapor recovery regulations. These amendments will establish new performance standards and specifications for nozzles used at fleet facilities that exclusively refuel vehicles equipped with onboard vapor recovery systems, provide regulatory relief for owners of certain existing aboveground storage tanks, and ensure that mass-produced vapor recovery equipment matches the specifications of equipment evaluated during the Air Resources Board certification process.

3. Update to the Board on Vehicle Emissions Research

The Board heard an overview of recent and ongoing extramural and in-house research studies to reduce emissions from vehicles. Staff described studies focused on both the light- and heavy-duty sectors to evaluate emissions of current fleets and to help guide the transition to zero- and near-zero emission technologies. Studies using remote sensing, roadside measurements, and Portable Emissions Measurement Systems have demonstrated a 99 percent reduction in light-duty emission rates over 20 years. For heavy-duty trucks, the effects of programs including the Drayage and Truck and Bus rules have been seen in studies showing a 70 percent reduction in black carbon emission rates over just 2 years.

4. Update to the Board on Sustainable Freight Strategy

The Board heard a briefing by staff on the discussion draft of the report *Sustainable Freight: Pathways to Zero and Near-Zero Emissions*. The staff presentation highlighted the strides California has already made in reducing emissions of NO_x, SO_x, and PM from freight sources. Staff also outlined immediate actions, near-term action, and a vision for the future on a path to zero and near-zero emissions. In addition to increased efficiency throughout the freight transportation system, the report looks towards complete transition to zero- and near-zero emission technology and renewable fuels with the goal of a sustainable freight system that supports environmental, energy, transportation, and economic objectives. The Board approved a resolution that directed staff to continue to engage stakeholders, evaluate and develop potential measures and other policy approaches, and coordinate with the local air districts during the 2016 State Implementation plan (SIP) development process on freight-related measure for the SIP. Lastly, the Board directed staff to work with the State's transportation, economic, and energy agencies on a broad Sustainable Freight Strategy.

SCAQMD Staff Comments/Testimony: Staff indicated that the Sustainable Freight Strategy is a critical component in the development of the next round of mobile source

control strategies to meet federal air quality standards for the South Coast Air Basin. While the CARB staff has done a good job in preparing the discussion draft for public input and providing actions in the immediate and near-term timeframe, the proposed actions are not sufficient for the South Coast Air Basin to attain the ozone air quality standards in 2022 and 2023. The actions can be more aggressive in terms of schedule and level of emissions reduction. The SCAQMD staff is working closely with CARB staff on the development of the 2016 SIP for the South Coast Air Basin. Actions identified in the SIP process should be incorporated into the Sustainable Freight Strategy. As such, staff requested that the adoption resolution include language explicitly stating that actions developed through the SIP process be included in the Sustainable Freight Strategy. CARB Boardmember Mitchell introduced specific language for the adopting resolution stating that as part of the development of the Sustainable Freight Strategy that actions developed as part of the SIP Process be considered for inclusion into the Sustainable Freight Strategy. The CARB Board approved adding the proposed language into the adoption resolution.

Attachment

CARB April 23, 2015 Meeting Agenda

LOCATION:

Air Resources Board
Byron Sher Auditorium, Second Floor
1001 I Street
Sacramento, California 95814
<http://www.calepa.ca.gov/EPAbldg/location.htm>

PUBLIC MEETING AGENDA

April 23, 2015

[Webcast](#)

This facility is accessible by public transit. For transit information, call (916) 321-BUSS, website: <http://www.sacrt.com>
(This facility is accessible to persons with disabilities.)

TO SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO: <http://www.arb.ca.gov/lispub/comm/bclist.php>

**Thursday
April 23, 2015
9:00 a.m.**

DISCUSSION ITEMS:

Note: The following agenda items may be heard in a different order at the Board meeting.

Agenda Item #

15-3-1: Fifth Annual Report from the Office of the Ombudsman 2014

Staff will present to the Board a report on the enhancements to the Air Resources Board's (ARB) Ombudsman's Office that have occurred during the last five years and provide a look at the focus areas going forward. The Ombudsman has shaped the office into a more collaborative and proactive force for connecting with California small business owners and related stakeholders and engaging them on ARB policies and regulations.

[More Information](#)

[Staff Presentation](#)

15-3-2: Public Hearing to Consider Amendments to Certification Procedures for Vapor Recovery Systems at Gasoline Dispensing Facilities: Aboveground Storage Tanks and Enhanced Conventional Nozzles

Staff will present to the Board proposed amendments to the gasoline vapor recovery regulations. These amendments would establish new performance standards and specifications for nozzles used at fleet facilities that exclusively refuel vehicles equipped with onboard vapor recovery systems, would provide regulatory relief for owners of certain existing aboveground storage tanks, and would ensure that mass-produced vapor recovery equipment matches the specifications of equipment evaluated during the Air Resources Board certification process.

[More Information](#)

[Staff Presentation](#)

15-3-3: Update to the Board on Vehicle Emissions Research

Staff will present to the Board an overview of recent and ongoing extramural and in-house emission research studies. Staff will describe studies and recent results and the implications to ARB programs.

[More Information](#)

[Staff Presentation](#)

15-3-4: Update to the Board on Sustainable Freight Strategy

Staff will present to the Board an update on the development of the California Sustainable Freight Strategy, including potential integration with other State freight planning efforts. This update will focus on a discussion document released before the meeting that describes actions staff is considering to reduce emissions from California's freight system and move toward zero or near-zero emissions.

[More Information](#)

[Staff Presentation](#)

CLOSED SESSION

The Board will hold a closed session, as authorized by Government Code section 11126(e), to confer with, and receive advice from, its legal counsel regarding the following pending or potential litigation, and as authorized by Government Code section 11126(a):

POET, LLC, et al. v. Corey, et al., Superior Court of California (Fresno County), Case No. 09CECG04850; plaintiffs' appeal, California Court of Appeal, Fifth District, Case No. F064045; California Supreme Court, Case No. S213394. [remanded to trial court].

Rocky Mountain Farmers Union, et al. v. Corey, U.S. District Court (E.D. Cal. Fresno), Case No. 1:09-CV-02234-LJO-DLB; ARB interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 09-CV-02234 [remanded to trial court].

American Fuels and Petrochemical Manufacturing Associations, et al. v. Corey, et al., U.S. District Court (E.D. Cal. Fresno), Case No. 1:10-CV-00163-AWI-GSA; ARB's interlocutory appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 10-CV-00163 [remanded to trial court].

California Dump Truck Owners Association v. Nichols, U.S. District Court (E.D. Cal. Sacramento), Case No. 2:11-CV-00384-MCE-GGH; plaintiffs' appeal, U.S. Court of Appeals, Ninth Circuit, Case No. 13-15175.

Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2010-00082774; ARB's appeal, California Court of Appeal, Third District, Case No. C071891. EMA Petition for Review, California Supreme Court, Case No. S223544.

Truck and Engine Manufacturers Association v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2013-00150733.

Alliance of Automobile Manufacturers v. California Air Resources Board; Sacramento Superior Court, Case No. 34-2013-00152974.

Citizens Climate Lobby and Our Children's Earth Foundation v. California Air Resources Board, San Francisco Superior Court, Case No. CGC-12-519554, plaintiffs' appeal, California Court of Appeal, First District, Case No. A138830.

California Chamber of Commerce et al. v. California Air Resources Board, Sacramento Superior Court, Case No. 34-2012-80001313; plaintiffs' appeal, California Court of Appeal, Third District, Case No. C075930.

Morning Star Packing Company, et al. v. California Air Resources Board, et al., Sacramento Superior Court, Case No. 34-2013-800001464; plaintiffs' appeal, California Court of Appeal, Third District, Case No. C075954.

Delta Construction Company, et al. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 11-1428.

Alliance for California Business v. Nichols et al., Glenn County Superior Court, Case No. 13CV01232.

Dalton Trucking, Inc. v. United States Environmental Protection Agency, U.S. Court of Appeals, District of Columbia Circuit, Case No. 13-1283.

Owner-Operator Independent Drivers Association Inc. et al. v. Richard W. Corey et al., U.S. District Court, (E.D. Cal. Fresno) Case No. 1:13-CV-01998-LJO-SAB (transferred by court to E.D.Cal. Sacramento, Case No. 2:14-CV-00186-MCE-AC).

John R. Lawson Rock & Oil, Inc. et al. v. California Air Resources Board et al., Fresno County Superior Court, Case No. 14-CECG01494.

Transportation Solutions Defense and Education Fund v. California Air Resources Board, Fresno County Superior Court, Case No. 14CECG01788 (plaintiff's transfer to Sacramento Superior).

California Nozzle Specialists, Inc. v. California Air Resources Board, Los Angeles County Superior Court, Case No. BC564965.

California Air Resources Board v. BP West Coast Products LLC, Contra Costa County Superior Court, Case No. C12-00567.

OPPORTUNITY FOR MEMBERS OF THE BOARD TO COMMENT ON MATTERS OF INTEREST

Board members may identify matters they would like to have noticed for consideration at future meetings and comment on topics of interest; no formal action on these topics will be taken without further notice.

OPEN SESSION TO PROVIDE AN OPPORTUNITY FOR MEMBERS OF THE PUBLIC TO ADDRESS THE BOARD ON SUBJECT MATTERS WITHIN THE JURISDICTION OF THE BOARD

Although no formal Board action may be taken, the Board is allowing an opportunity to interested members of the public to address the Board on items of interest that are within the Board's jurisdiction, but that do not specifically appear on the agenda. Each person will be allowed a maximum of three minutes to ensure that everyone has a chance to speak.

TO ELECTRONICALLY SUBMIT WRITTEN COMMENTS ON AN AGENDA ITEM IN ADVANCE OF THE MEETING GO TO:

<http://www.arb.ca.gov/lispub/comm/bclist.php>

(Note: not all agenda items are available for electronic submittals of written comments.)

IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE CLERK OF THE BOARD:

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ARB Homepage: www.arb.ca.gov

SPECIAL ACCOMMODATION REQUEST

Consistent with California Government Code Section 7296.2, special accommodation or language needs may be provided for any of the following:

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- Una acomodación razonable relacionados con una incapacidad

Para solicitar estas comodidades especiales o necesidades de otro idioma, por favor llame a la oficina del Consejo al (916) 322-5594 o envíe un fax a (916) 322-3928 lo más pronto posible, pero no menos de 7 días de trabajo antes del día programado para la audiencia del Consejo. TTY/TDD/Personas que necesiten este servicio pueden marcar el 711 para el Servicio de Retransmisión de Mensajes de California.

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 27

PROPOSAL: Annual Meeting of the Brain & Lung Tumor and Air Pollution Foundation

SYNOPSIS: This item is to conduct the annual meeting of the Brain & Lung Tumor and Air Pollution Foundation. The Foundation staff will present an annual report detailing the research supported by the Foundation over the past year, the Foundation's plans for the future, and a financial report.

COMMITTEE: No Committee Review

RECOMMENDED ACTIONS:

1. Receive and file the annual report and ratify the Foundation disbursements described in the annual report.
2. Ratify the appointment of Dr. William A. Burke as a Foundation Director, replacing former Board Member Josie Gonzales.

Barry R. Wallerstein, D.Env.
Executive Officer

KRW:ML

2015 Annual Report

1. Background

In February 2003, the Board established the Brain Tumor and Air Pollution Foundation. In March 2004, the Foundation amended its Articles of Incorporation to change its name to Brain & Lung Tumor and Air Pollution Foundation (Foundation) and to specify that its purpose is related to the effects of air pollution on brain tumors and lung cancer. The mission of the Foundation is to support research studies on the association between air pollution and brain and lung tumors, as well as research for the development of novel therapeutics for such tumors. To date, the dollar amount of the funding received is \$5,722,568. The current projects are described below.

2. Directors and Officers

The Directors of the Foundation are: Michael D. Antonovich, Chairman
Dennis R. Yates, Vice Chairman
Dr. Clark E. Parker, Sr.
Dr. William A. Burke

The Foundation's staff is: Barry Wallerstein, Chief Executive Officer
Denise Witcher, Secretary
Michael O'Kelly, Treasurer

3. Report on the Foundation's Activities

Current Research Projects

Chronic Exposure of Mice to Ambient Particles to Study Cancer-Related Stem Cell Activation in the Brain
Principal Investigator: Keith Black, M.D., Cedars-Sinai Medical Center
Approved Funding: \$1,000,000
Allocated Funding: \$500,000

This project was approved by the Foundation Board in September 2013 as a follow-up to previous laboratory studies conducted by Cedars-Sinai. In the current study, laboratory animals are exposed to ambient particulate matter, including ultrafine particles, for a period of one year for additional investigation of potential stem cell activation into cancer precursor cells. The elucidation of such molecular pathways involved in survival, proliferation, and differentiation of cancer stem cells may be fundamental information to help develop therapies for brain tumors and to develop potential preventive measures. The research is being done in collaboration with the UC Irvine School of Medicine. The on going project was originally scheduled for completion by September 2015. However, due to a power outage, the stored frozen tissue samples collected from prior, shorter-term exposures (one, three, and six months) were lost. This significantly affects the current research project as the stored samples are necessary to compare with the results from the current exposures to complete the study objectives. Cedars-Sinai has committed to cover the replication of the previous experiments to replace the lost samples using their own funds so that the study can be successfully completed. This has resulted in a delay in the project's estimated completion date to May 2016.

4. Financial Report

As of February 28, 2015, the Foundation had a cash balance of \$559,698. Following is an accounting of the Foundation's operations since its inception (7/23/03):

Revenue from Operations	
Contributions	\$5,722,568
Interest Income	39,511
<i>Total Revenue from Operations</i>	\$5,762,079
Operating Expenses	
Grants Awarded	
-Cedars-Sinai	\$4,809,250
-USC	377,967
Corporation Filing Costs	1,390
Bank charges	574
Professional fees-audit	13,200
<i>Total Operating Expenses</i>	\$5,202,381
Cash Balance	\$559,698

5. Plans for Upcoming Year

The Foundation will continue monitoring the progress of existing research projects. The Foundation will evaluate new projects and provide funding when additional funds become available. The Foundation hopes to receive approximately \$2,500,000 from the Health Effects Research Fund from the SCAQMD for which it will release an RFP to solicit research proposals within the purpose of the Foundation.

6. Replacement of Foundation Director

Dr. William Burke has replaced former Board member Josie Gonzales as a Foundation Director.

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 28

REPORT: Final MATES IV Report

SYNOPSIS: The Multiple Air Toxics Exposure Study IV (MATES IV) is a monitoring and evaluation study conducted in the South Coast Air Basin (Basin). The study is a follow-up to previous air toxics studies in the Basin and is part of the South Coast Air Quality Management District Board Environmental Justice Initiative. The MATES IV Study consists of several elements. These include a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. The study focuses on the carcinogenic risk from exposure to air toxics. Compared to previous studies of air toxics in the Basin, this study found decreasing air toxics exposure, with the estimated Basin-wide population-weighted risk down by over 50% from the analysis done for the MATES III time period.

COMMITTEE: Initial Board Review of Draft Report, October 3, 2014;
Final Report, No Committee Review

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:JO:mt

Background:

In 1986, SCAQMD conducted the first Multiple Air Toxics Exposure Study (MATES) to determine the Basin-wide risks associated with major airborne carcinogens. At the time, the state of technology was such that only 10 known air toxic compounds could be analyzed. In 1998, a second MATES study (MATES II) represented one of the most comprehensive air toxics measurement programs conducted in an urban environment.

MATES II included a monitoring program of 40 known air toxic compounds, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize health risks from hazardous air pollutants. A third study, MATES III, was conducted in the 2004-2006 timeframe. It consisted of a two-year monitoring program as well as updates to the air toxics emissions inventory and a regional modeling analysis of exposures to air toxics in the Basin.

Since these studies were first conducted, numerous emissions control programs have been implemented at the national, state, and local levels; and toxics emissions have been declining. However, at the community level, there remains heightened awareness of toxic air contaminant exposures. This report presents the results of the fourth air toxics monitoring and exposure study conducted by the SCAQMD (MATES IV). It consists of a one-year monitoring study, an updated air toxic emissions inventory, as well as updates to monitored and modeled exposures and risk estimated from air toxics. The objective is to update the characterization of ambient air toxic concentrations and potential exposures to air toxics in the Basin.

This study, as the previous MATES studies, focuses on the carcinogenic risks from exposures to air toxics. It does not include an analysis of noncancer mortality from exposure to particulates. An analysis of mortality and other health effects from exposure to particulates is conducted as part of the periodic updates to the Air Quality Management Plans.

The results of this effort can be used to determine spatial patterns of exposure to hazardous air pollutants in the Basin, assess the effectiveness of current air toxic control measures, provide long-term trends of air toxic levels, and help to develop appropriate control strategies for reducing exposures to toxics associated with significant public health risks.

The MATES IV Draft Report was released on October 3, 2014, and the summary findings were presented to the Board at that time. The findings and report were also presented at a public meeting of the MATES IV Technical Advisory Group.

Additional appendices were added to the report which include a discussion of the measurements of particle counts (Appendix VII), the comments received (Appendix XII), and staff responses to comments (Appendix XIII). Most of the comments were technical in nature and are summarized in Appendix XIII along with staff responses.

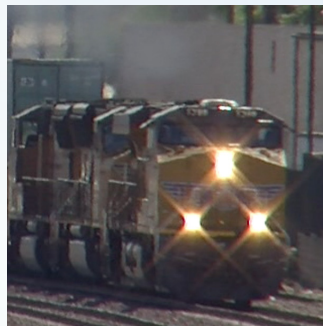
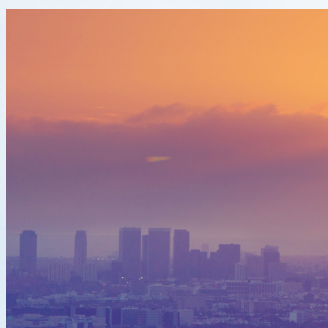
Attachment

Final Multiple Air Toxics Exposure Study IV

DRAFT FINAL REPORT

Multiple Air Toxics Exposure Study
in the South Coast Air Basin

MATES-IV



APRIL 2015



**SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT**

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**Multiple Air Toxics Exposure Study
in the South Coast Air Basin**

MATES IV

DRAFT FINAL REPORT

April 2015

**South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765**

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GOVERNING BOARD**

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EXECUTIVE SUMMARY

Executive Summary

The Multiple Air Toxics Exposure Study IV (MATES IV) is a monitoring and evaluation study conducted in the South Coast Air Basin (Basin). The study is a follow up to previous air toxics studies in the Basin and is part of the South Coast Air Quality Management District (SCAQMD) Governing Board Environmental Justice Initiative.

The MATES IV Study consists of several elements. These include a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the Basin. The study focuses on the carcinogenic risk from exposure to air toxics. It does not estimate mortality or other health effects from particulate exposures. The latter analyses are conducted as part of the updates to Air Quality Management Plans and are not included here.

A network of 10 fixed sites was used to monitor toxic air contaminants once every six days for one year. The locations of the sites were generally the same as in the MATES II and MATES III Studies to allow for comparisons over time. The one exception is the West Long Beach site, which was about 0.8 mile northwest of the location used in MATES III. The locations of the sites are shown in Figure ES-1.

As noted above, the study also includes computer modeling to estimate air toxic levels throughout the Basin. This allows estimates of air toxic risks in all areas of the Basin, as it is not feasible to conduct monitoring in all areas.

To provide technical guidance in the design of the study, a Technical Advisory Group was formed. The panel of experts from academia, environmental groups, industry, and public agencies provided valuable insight on the study design.

In the monitoring program, over 30 air pollutants were measured. These are listed in Table ES-1. These included both gaseous and particulate air toxics.

Table ES-1 Substances Measured in MATES IV

Acetaldehyde	Dichloroethane	Organic Carbon (OC)
Acetone	Elemental Carbon (EC)	PAHs
Arsenic	Ethyl Benzene	Perchloroethylene
Benzene	Formaldehyde	PM _{2.5}
Black Carbon (BC)	Hexavalent Chromium	PM ₁₀
1,3-Butadiene	Lead	Selenium
Cadmium	Manganese	Styrene
Carbon Tetrachloride	Methylene Chloride	Toluene
Chloroform	Methyl ethyl ketone	Trichloroethylene
Copper	MTBE	Ultrafine Particles (UFP)
Dibromoethane	Naphthalene	Vinyl Chloride
Dichlorobenzene	Nickel	Xylene
		Zinc

The monitored and modeled concentrations of air toxics were then used to estimate the carcinogenic risks from ambient levels. Annual average concentrations were used to estimate a lifetime risk from exposure to these levels, consistent with guidelines established by the Office of Environmental Health Hazard Assessment (OEHHA) of the California Environmental Protection Agency (CalEPA). After release of the draft MATES IV Report, OEHHA adopted revised methodology to estimate carcinogenic risk. To provide a consistency with the draft report and previous MATES reports, we continue to present the risk results using the previous method. We also provide the estimates of risk based on the new methodology.

Key results of the study are presented below.

Fixed Site Monitoring

The levels of air toxics continued to decline compared to previous MATES studies. The most dramatic reduction is in the level of diesel particulate, which showed 70% reduction in average level measured at the 10 monitoring sites compared to MATES III. The carcinogenic risk from air toxics in the Basin, based on the average concentrations at the 10 monitoring sites, is 65% lower than the monitored average in MATES III. This risk refers to the expected number of additional cancers in a population of one million individuals if they were exposed to these levels over a 70-year lifetime. About 90% of the risk is attributed to emissions associated with mobile sources, with the remainder attributed to toxics emitted from stationary sources, which include large industrial operations such as refineries and metal processing facilities, as well as smaller businesses such as gas stations and chrome plating. The average risks from the annual average levels of air toxics calculated from the fixed monitoring sites data are shown in Figure ES-2 along with the key pollutant contributors to overall risk.

The air toxics risk at the fixed sites ranged from 320 to 480 per million. The risk by site is depicted in Figure ES-3. The results indicate that diesel particulate is the major contributor to air toxics risk, accounting on average for about 68% of the total. This compares to about 84% in MATES III. In Figure ES-4 the relative effect of using the updated calculation methodology is shown by monitoring site. On average, the calculated risk is about 2.5 times higher with the revised methodology.¹ We note that this is not a change in exposure levels and that the relative risks compared to MATES III are not changed.

Modeling

Regional air quality modeling is used to determine ambient air toxic concentrations throughout the Basin due to air toxic emissions from all sources. The model simulated concentrations of toxic compounds are translated into air toxic health risks based upon compound potency risk factors. This analysis complements the techniques used to assess concentration and risk from the data acquired at the fixed monitoring sites.

As in MATES III, MATES IV employed the Comprehensive Air Quality Model with Extensions (CAMx), enhanced with a reactive tracer modeling capability (RTRAC), as the dispersion and

¹ In the October, 2014 Draft MATES IV Report, the increase in risk estimates was given as a 2.7 fold increase. This was based on using the 90th percentile of breathing rate distribution. In anticipation of CARB guidance for risk management, we have used the 80th percentile of the breathing rate distribution for ages greater than 2 years. This resulted in a 2.45 fold change in the estimate of risk.

chemistry modeling platform used to simulate annual impacts of both gas and particulate toxic compounds in the Basin. The version of the RTRAC in CAMx used in the modeling simulations includes an air toxics chemistry module that is used to treat the formation and destruction of reactive air toxic compounds.

Modeling was conducted on a domain that encompassed the Basin and the coastal shipping lanes using a 2 km by 2 km grid size. A projected emissions inventory for 2012 based on the 2012 AQMP emissions inventory, which included detailed source profiles of air toxic sources, provided the mobile and stationary source inputs for the MATES IV simulations. Although the actual measurements and modeling for MATES IV spanned July 1, 2012, to June 30, 2013, for simplicity, the MATES IV modeling utilized the 2012 emissions inventory.

The results of the regional modeling estimates of risk are depicted in Figure ES-5. As shown, the areas of higher risk include those near the ports, Central Los Angeles, and along transportation corridors.

For comparison purposes, Table ES-2 shows the estimated population weighted risk across the Basin for the MATES III and MATES IV periods. The population weighted risk was about 57% lower compared to the MATES III period (2005).

Table ES-2 Modeled Air Toxics Risk Comparisons Using the CAMx Model

	MATES IV	MATES III	Change
Population weighted risk (per million)	367	853	-57%

Applying the revised OEHHA methodology to the modeled air toxics levels, the MATES IV estimated population weighed risk is 897 per million, an increase of about 2.5. Again we note that this is not a change in exposure levels, and that the relative risks compared to MATES III are not changed.

Figure ES-6 depicts the 2005 to 2012 change in estimated air toxics risk for each model grid cell estimated from the CAMx simulations. Overall, air toxics risk was reduced to varying levels across the Basin, with the largest improvements in the highest risk areas.

Noncancer Assessment

To assess the potential for noncancer health risks, the monitored average levels were compared to the chronic reference exposure levels (RELs) established by OEHHA. The chronic REL is the air concentration at or below which adverse noncancer health effects would not be expected in the general population with exposure for at least a significant fraction of a lifetime. The measured concentrations of air toxics were all below the established chronic RELs.

Caveats and Uncertainty

One source of uncertainty is that currently there is no technique to directly measure diesel particulates, the major contributor to risk in this study, so indirect estimates based on components of diesel exhaust must be used. The method chosen to estimate diesel particulate is to adjust measured EC levels by the ratio of emissions of EC and diesel from the emissions inventory estimates. This approach was reviewed by the Technical Advisory Group, and it is staff's judgment that this is an appropriate method to estimate the ambient levels of diesel particulate matter. During the MATES III Study, this method gave average estimates that were very similar to those estimated using a Chemical Mass Balance method. Additional detail is provided in Chapter 2.

There are also uncertainties in the risk potency values used to estimate lifetime risk of cancer. This study used the unit risks for cancer potency established by OEHHA and the annual average concentration measured or modeled to calculate risk. This methodology has long been used to estimate the relative risks from exposure to air toxics in California and is useful as a yardstick to compare potential risks from varied sources and emissions and to assess any changes in risks over time that may be associated with changing air quality.

The estimates of health risks are based on the state of current knowledge, and the process has undergone extensive scientific and public review. However, there is uncertainty associated with the processes of risk assessment. This uncertainty stems from the lack of data in many areas necessitating the use of assumptions. The assumptions are consistent with current scientific knowledge, but are often designed to be conservative and on the side of health protection in order to avoid underestimation of public health risks. However, community and environmental justice advocates have often commented that risks are underestimated due to unquantified effects of toxic pollutants.

As noted in the OEHHA risk assessment guidelines, sources of uncertainty, which may either overestimate or underestimate risk, include: (1) extrapolation of toxicity data in animals to humans; (2) uncertainty in the estimation of emissions; (3) uncertainty in the air dispersion models; and (4) uncertainty in the exposure estimates. Uncertainty may be defined as what is not currently known and may be reduced with further scientific studies. In addition to uncertainty, there is a natural range or variability in the human population in such properties as height, weight, and susceptibility to chemical toxicants.

Thus, the risk estimates should not be interpreted as actual rates of disease in the exposed population, but rather as estimates of potential risk, based on current knowledge and a number of assumptions. However, a consistent approach to risk assessment is useful to compare different sources, different substances, and different time frames in order to prioritize public health concerns.

Updates to Cancer Risk Estimation Methods

Staff notes that OEHHA has adopted updated methods for estimating cancer risks.² The new method includes utilizing higher estimates of cancer potency during early life exposures. There

² California Environmental Protection Agency Office of Environmental Health Hazard Assessment, Air Toxics Hot ES-4

are also differences in the assumptions on breathing rates and length of residential exposures. Staff has calculated unit risk factors with the updated methodology to show the effect of applying the methodology. These calculated unit risk factors are shown in Appendix I. While the previous method is used to compare results with past studies, staff also presents the estimates using the updated methods. These are shown in Figure ES-7 for the regional modeled air toxics levels. Thus, while air toxic emissions, ambient levels, and resulting exposures have dropped significantly over the past several years, the updated OEHHA methods estimate that the risks from a certain level of air toxic exposure are significantly higher than previously assumed.

Conclusion

Compared to previous studies of air toxics in the Basin, this study found decreasing air toxics exposure, with the estimated Basin-wide population-weighted risk down by about 57% from the analysis done for the MATES III time period. The ambient air toxics data from the 10 fixed monitoring locations also demonstrated a similar reduction in air toxic levels and risks.

Policy Implications

While there has been substantial improvement in air quality regarding air toxics emissions and exposures, in staff's view the risks are still unacceptably high, especially near sources of toxic emissions such as the ports and transportation corridors. In addition, when updates to risk calculation methods are incorporated, the risks are substantially higher than previously estimated. Diesel particulate, while also substantially reduced from past MATES studies, continues to dominate the overall cancer risk from air toxics.

The results from this study continue to support a continued focus on the reduction of toxic emissions, particularly from diesel engines.

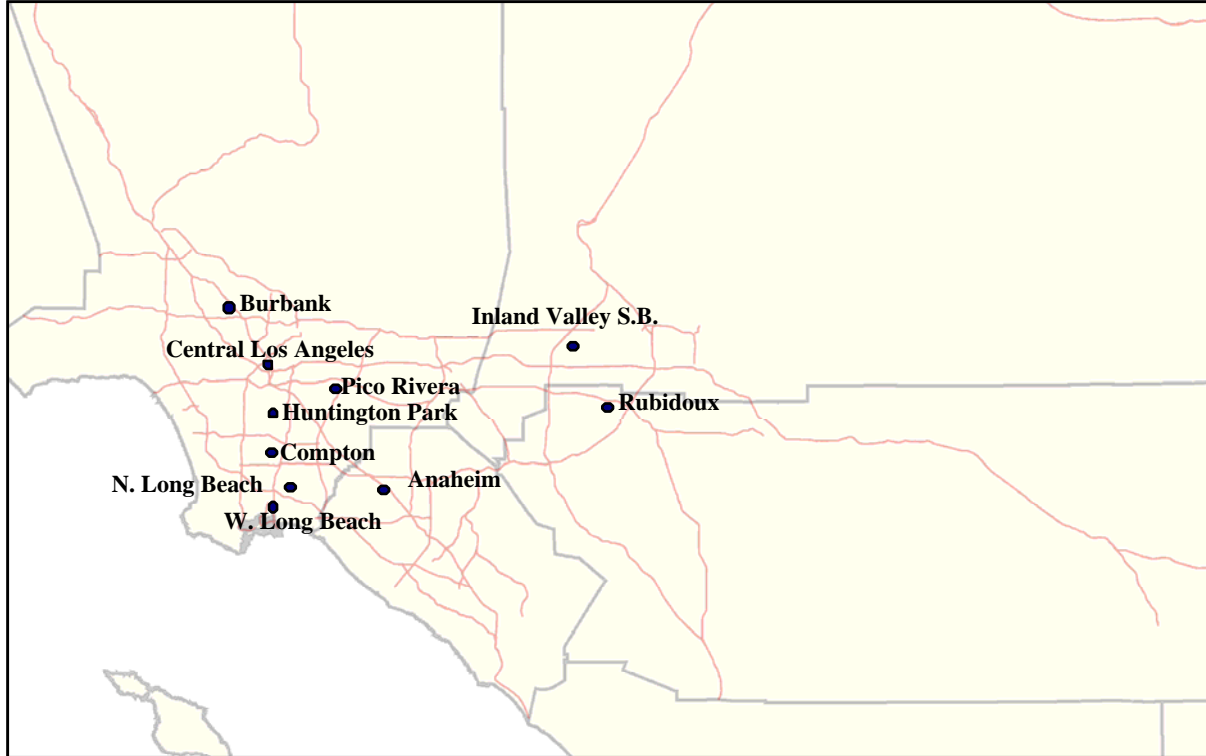
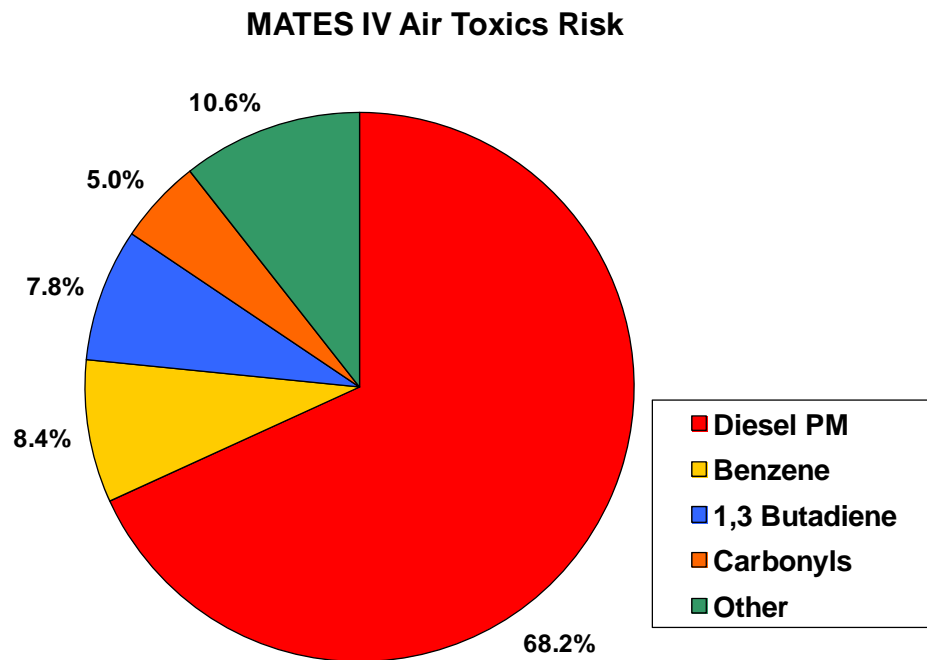


Figure ES-1 Map of MATES IV Monitoring Sites



Basinwide Risk: 418 per million
Based on Average of 10 Fixed Monitoring sites

Figure ES-2 Average Risk from Monitoring Sites

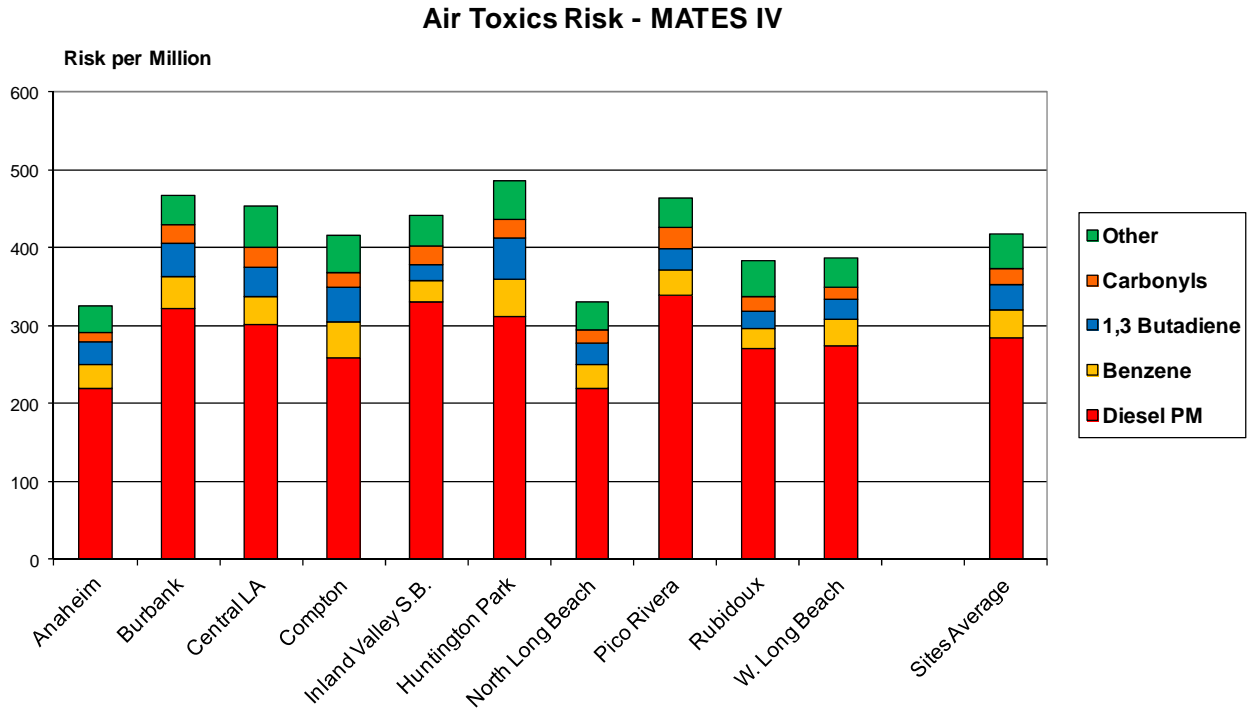


Figure ES-3.

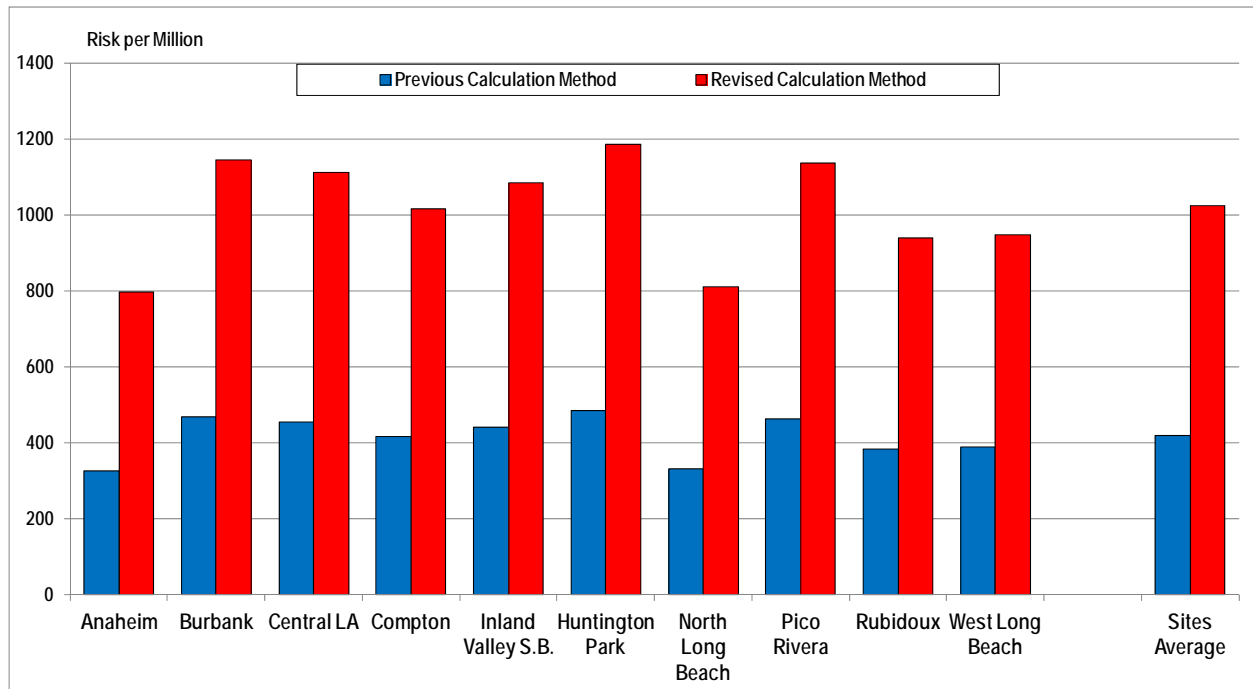


Figure ES-4. MATES IV Cancer Risk Results Comparison Between Previous and Updated OEHHA Risk Calculation Methodologies

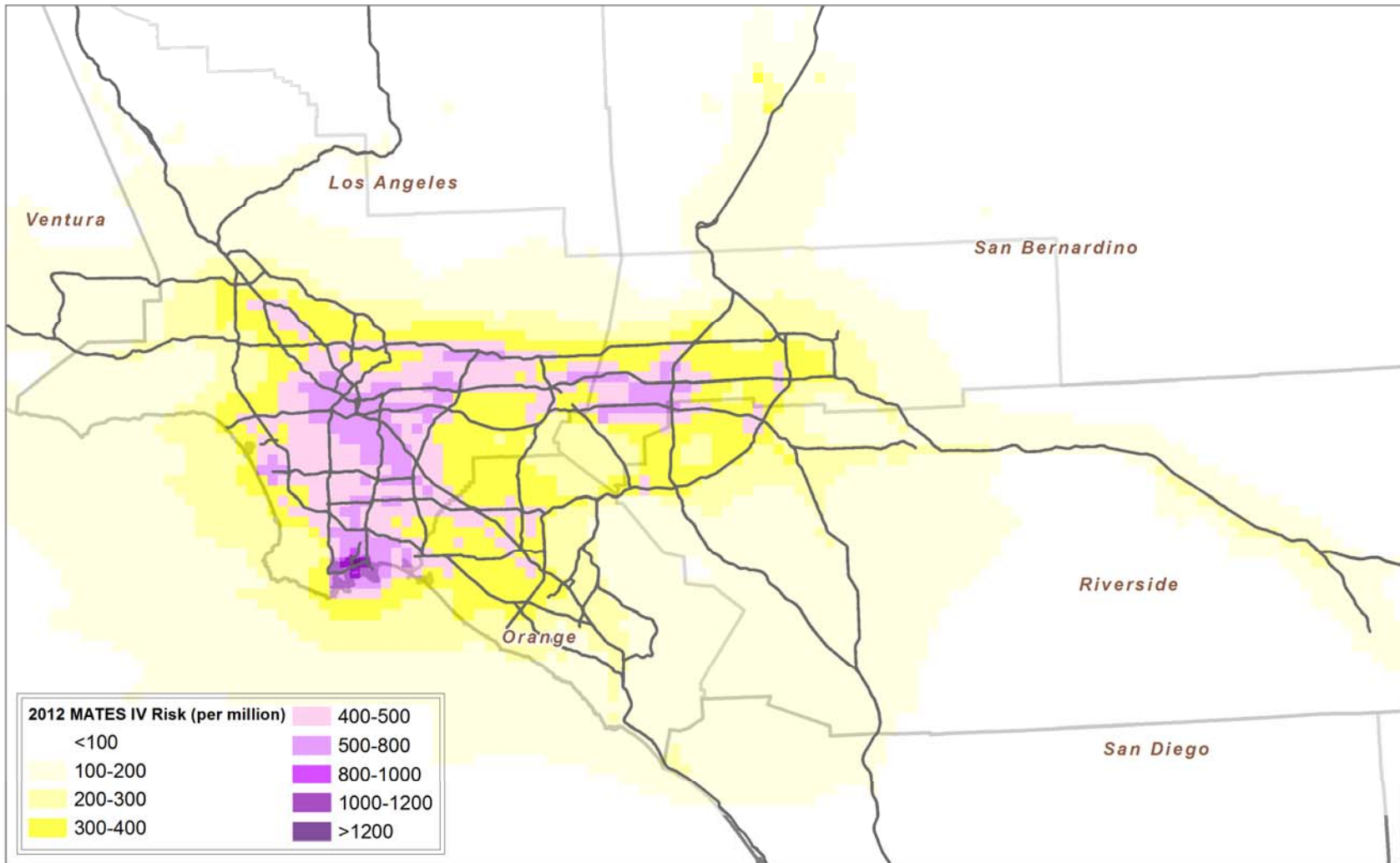


Figure ES-5
MATES IV Modeled Air Toxics Risk Estimates

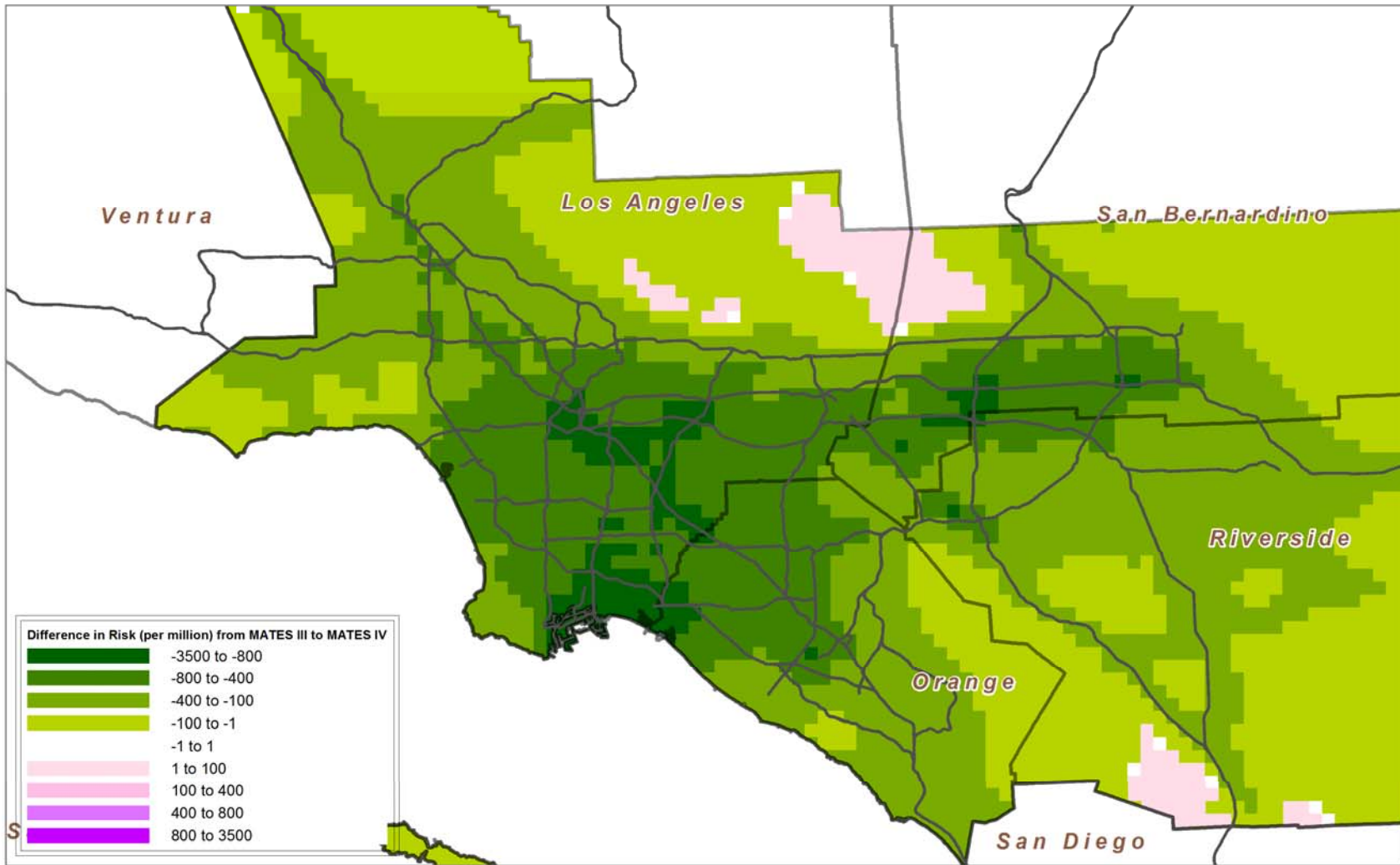


Figure ES-6
Change in Air Toxics Estimated Risk (per million) from 2005 to 2012

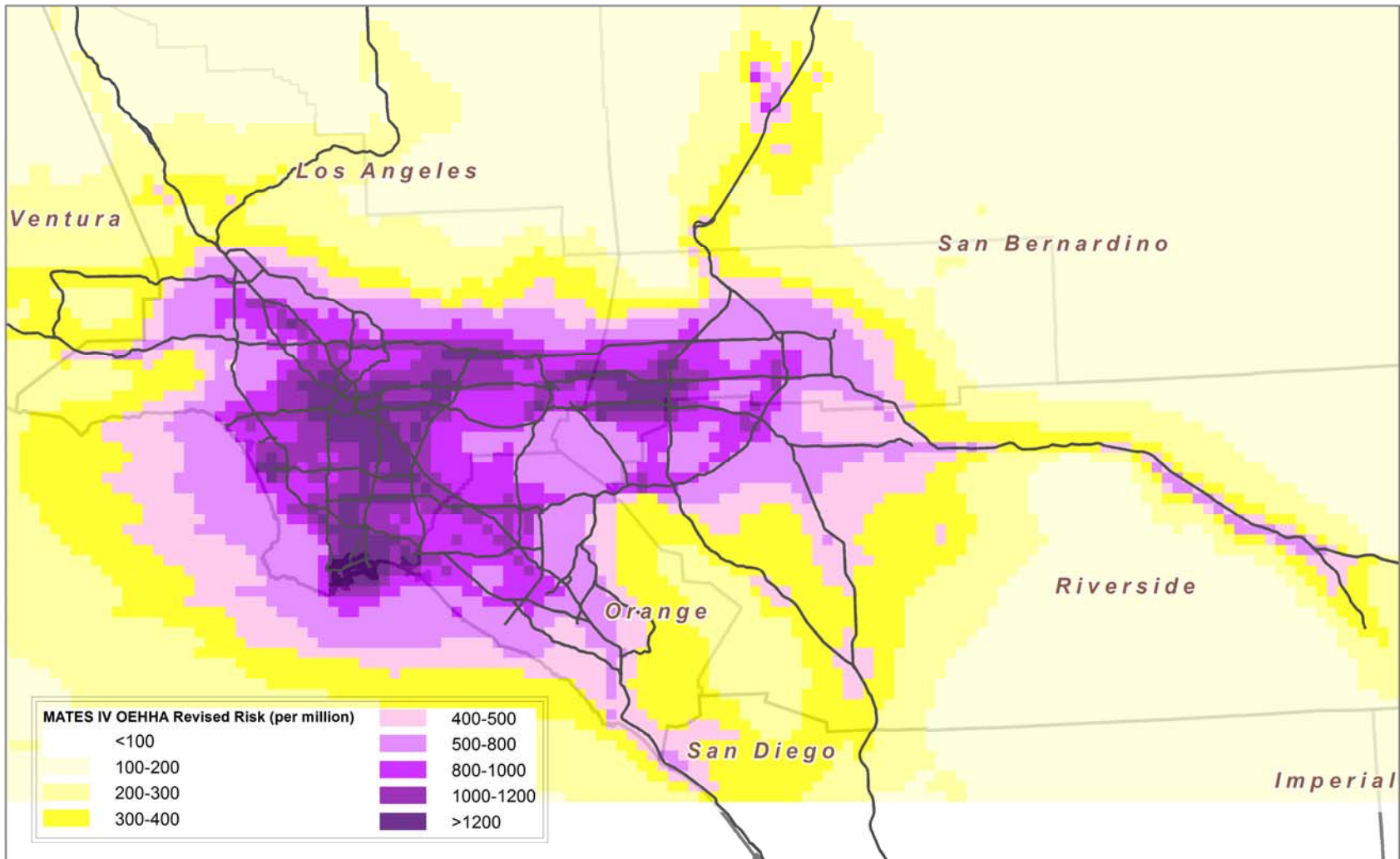


Figure ES-7
MATES IV Modeled Air Toxics Risks Estimates Using Updated OEHHA Methodology

CHAPTER 1
INTRODUCTION

Chapter 1. Introduction

1.1 Background

The South Coast Air Basin (Basin), a highly urbanized area, is home to over 17 million people who own and operate about 11 million motor vehicles and contains some of the highest concentrations of industrial and commercial operations in the country. It also has some of the worst air quality in the U.S. In 1986, SCAQMD conducted the first MATES study to determine the Basin-wide risks associated with major airborne carcinogens. At the time, the state of technology was such that only 10 known air toxic compounds could be analyzed. In 1998, a second MATES study (MATES II) represented one of the most comprehensive air toxics measurement programs conducted in an urban environment. MATES II included a monitoring program of 40 known air toxic compounds, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize health risks from hazardous air pollutants. A third study, MATES III, was conducted in the 2004-2006 timeframe. It consisted of a two-year monitoring program as well as updates to the air toxics emissions inventory and a regional modeling analysis of exposures to air toxics in the Basin.

Since these studies were first conducted, numerous emissions control programs have been implemented at the national, state, and local levels; and toxics emissions have been declining. However, at the community level, there remains heightened awareness of toxic air contaminant exposures. There are also environmental justice concerns that programs designed to reduce emissions may not be effective in reducing risks from toxic air contaminants in certain areas, particularly in communities with lower income or multiple sources of air toxics.

This report presents the results of the fourth air toxics monitoring and exposure study conducted by the SCAQMD (MATES IV). It consists of a one-year monitoring study, an updated air toxic emissions inventory, as well as updates to monitored and modeled exposures and risk estimated from air toxics. The objective is to update the characterization of ambient air toxic concentrations and potential exposures to air toxics in the Basin.

This study, as the previous MATES studies, focuses on the carcinogenic risks from exposures to air toxics. It does not include an analysis of noncancer mortality from exposure to particulates. An analysis of mortality and other health effects from exposure to particulates was conducted as part of the periodic updates to the Air Quality Management Plans.

The results of this effort can be used to determine spatial patterns of exposure to hazardous air pollutants in the Basin, assess the effectiveness of current air toxic control measures, provide long-term trends of air toxic levels, and help to develop appropriate control strategies for reducing exposures to toxics associated with significant public health risks.

There are three main components to the study, as listed below:

- Air Toxics Monitoring and Analyses
- Air Toxics Emissions Inventory Updates
- Air Toxic Modeling and Risk Assessments

In addition to air toxics, the monitoring portion of the study included continuous measurements of black carbon and ultrafine particles. These components are further described in the chapters that follow.

1.2 Estimates of Risks

A health risk assessment evaluates the potential health impacts from exposures to substances released from a facility or found in the air. These assessments provide estimates of potential long-term cancer and noncancer health risks. The assessments do not collect information on specific individuals but are estimates of potential effects in the population at large.

Potential health risks were estimated using methodology consistent with the procedures recommended in the 2003 OEHHA “Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments” (Guidance Manual). As discussed in the Guidance Manual, the risk assessment process generally consists of four parts; namely hazard identification, exposure assessment, dose response assessment, and risk characterization. The risk assessment steps, as applied in this study, are briefly summarized below.

Hazard Identification

Hazard identification involves determination of whether a hazard exists; and, if so, if the substance of concern is a potential human carcinogen or is associated with other types of adverse health effects in humans. For this study, the list of air toxics in the OEHHA Guidelines was used in conjunction with information on ambient levels of air toxics from previous studies, as well as input from the Technical Advisory Group, to determine which substances on which to focus for this assessment. This list is provided in Appendix I.

Exposure Assessment

The purpose of an exposure assessment is to estimate the extent of public exposure for a substance. This can involve quantification of emissions from a source, modeling of environmental transport and fate, and estimation of exposure levels over some period of time. In this study, annual averages of the air toxics of concern were estimated in two ways. For the fixed site monitoring station data, annual averages were calculated and used as an estimate of exposure. For the modeling analysis, emissions over the Basin were estimated and allocated to 2 kilometer by 2 kilometer geographic grids, and a regional dispersion model was used to estimate the annual average concentrations in each grid cell.

Dose Response Assessment

The dose response assessment characterizes the relationship between exposure to a substance and the incidence of an adverse health effect in an exposed population. For estimating cancer risk, the dose-response is expressed in terms of a potency slope that is used to calculate the probability of cancer associated with a given exposure. These cancer potency factors are expressed as the 95th statistical upper confidence limit of the slope of the dose response curve assuming a continuous lifetime exposure to a substance at a dose of one milligram per kilogram of body weight. For effects other than cancer, dose-response data are used to develop acute and chronic reference exposure levels (RELS). The RELs are defined as the concentrations at or below which no adverse noncancer health effects would be found in the general population. The acute RELs

are designed to be protective for infrequent one-hour exposures. The chronic RELs are designed to be protective for continuous exposure for at least a significant fraction of a lifetime.

For this study, the dose-response estimates developed by OEHHA are used to estimate the potential for adverse health effects. Note that these estimates sometimes differ from those developed by the U.S. EPA. For example, OEHHA has developed a cancer potency factor for diesel exhaust, whereas the U.S. EPA has elected not to do so. The U.S. EPA does state, however, that diesel exhaust is likely to be carcinogenic to humans and has adopted regulations designed to reduce diesel exhaust exposure. While some of the potency estimates OEHHA has developed for other air toxics produce different estimates of risks than those that would be calculated using the U.S. EPA values, the risk from diesel exhaust calculated using OEHHA's cancer potency factor is the dominant contributor to the estimated air toxics cancer risk in this study.

Risk Characterization

In this step, the estimated concentration of a substance is combined with the potency factors and RELs to determine the potential for health effects. In this study, the estimated or measured annual average levels for potential carcinogens are multiplied by the potency factor expressed as unit risks. The unit risk is the probability associated with a lifetime exposure to a level of one microgram per cubic meter of air of a given substance. The unit risk factors developed by OEHHA and used in this study are listed in Appendix I.

The potential cancer risk for a given substance is expressed as the incremental number of potential cancer cases that could be developed per million people, assuming that the population is exposed to the substance at a constant annual average concentration over a presumed 70-year lifetime. These risks are usually presented in chances per million. For example, if the cancer risks were estimated to be 100 per million, the probability of an individual developing cancer due to a lifetime of exposure would be one hundred in a million, or one in ten thousand. In other words, this predicts an additional 100 cases of cancer in a population of a million people over a 70-year lifetime.

Perspectives of Risk

To provide perspective, it is often helpful to compare the risks estimated from assessments of environmental exposures to the overall rates of health effects in the general population. For example, it is often estimated that the incidence of cancer over a lifetime in the U.S. population is in the range of 1 in 4 to 1 in 3. This translates into a risk of about 300,000 in a million. It has also been estimated that the bulk of cancers from known risk factors are associated with lifestyle factors such as tobacco use, diet, and being overweight. One such study, the Harvard Report on Cancer Prevention, estimated that of all cancers associated with known risk factors, about 30% were related to tobacco, about 30% were related to diet and obesity, and about 2% were associated with environmental pollution related exposures.

Source of Uncertainty

The estimates of health risks are based on the state of current knowledge, and the process has undergone extensive scientific and public review. However, there is uncertainty associated with

the processes of risk assessment. This uncertainty stems from the lack of data in many areas, thus necessitating the use of certain assumptions. The assumptions are consistent with current scientific knowledge, but are often designed to be conservative and on the side of health protection in order to avoid potential underestimation of public health risks.

As noted in the OEHHA guidelines, sources of uncertainty, which may either overestimate or underestimate risk, include: (1) extrapolation of toxicity data from animal studies to humans, (2) uncertainty in the estimation of emissions, (3) uncertainty in the air dispersion models, and (4) uncertainty in the exposure estimates. Uncertainty may be defined as what is not currently known and may be reduced with further scientific studies. In addition to uncertainty, there is a natural range or variability in the human population in such properties as height, weight, age, and susceptibility to chemical toxicants.

Thus, the risk estimates should not be interpreted as actual rates of disease in the exposed population, but rather as estimates of potential risk, based on current knowledge and a number of assumptions. However, a consistent approach to risk assessment is useful in comparing different sources and different substances in order to prioritize public health concerns.

1.3 Updates to Cancer Risk Estimation Methods

After the release of the draft MATES IV Report, OEHHA adopted revised methodology to estimate carcinogenic risk. To provide a consistency with the draft report and previous MATES reports, we continue to present the risk results using the previous method as described above. We also provide the estimates of risk based on the new methodology to show the difference between the two methodologies.

The new OEHHA method for estimating cancer risks includes utilizing higher estimates of cancer potency during early life exposures. There are also differences in the assumptions on breathing rates and length of residential exposures. Staff has calculated unit risk factors with the updated methodology to show the effect of applying the methodology. These calculated unit risk factors are shown in Appendix I. While the previous method is used to compare results with past studies, staff also presents the estimates using the updated methods. Thus, while air toxic emissions, ambient levels, and resulting exposures and risks have dropped significantly over the past several years, the updated OEHHA methods estimate that the risks from a certain level of air toxic exposure are significantly higher than previously assumed.

1.4 References

The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, Office of Environmental Health Hazard Assessment, California Environmental Protection Agency, 2003.

Harvard Report on Cancer Prevention Volume 1: Causes of Human Cancer
Cancer Causes & Control, Volume 7 Supplement November 1996

CHAPTER 2

AIR TOXICS MONITORING AND ANALYSES

Chapter 2. Air Toxics Monitoring and Analyses

2.1 Substances Monitored

The chemical compounds (Table 2-1) to be monitored in MATES IV include the toxics posing the most significant contributors to health risks as found in previous studies in the Basin. Additional measurements include organic carbon, elemental carbon, and total carbon, as well as particulate matter (PM), including PM_{2.5}. Acrolein was initially considered to be included. However, there was no suitable method available for routine analyses at the time the study began. Other compounds are also reported, since they are additionally captured in both the sampling and analytical protocols.

Table 2-1 Substances Monitored in MATES IV

Acetaldehyde	Dichloroethane	Organic Carbon (OC)
Acetone	Elemental Carbon (EC)	PAHs
Arsenic	Ethyl Benzene	Perchloroethylene
Benzene	Formaldehyde	PM _{2.5}
Black Carbon (BC)	Hexavalent Chromium	PM ₁₀
1,3-Butadiene	Lead	Selenium
Cadmium	Manganese	Styrene
Carbon Tetrachloride	Methylene Chloride	Toluene
Chloroform	Methyl ethyl ketone	Trichloroethylene
Copper	MTBE	Ultrafine Particles (UFP)
Dibromoethane	Naphthalene	Vinyl Chloride
Dichlorobenzene	Nickel	Xylene
		Zinc

These substances are the same as measured in MATES III with the addition of black carbon and ultrafine particles.

2.2 Monitoring Sites

The monitoring sites are generally identical to those used in the MATES II and III Studies, other than for the West Long Beach site. These sites were originally selected to measure numerous air toxic compounds at different locations in the Basin in order to establish a baseline of existing air toxic ambient concentrations, as well as risk data, and to assist in the assessment of modeling performance accuracy. The West Long Beach site for the MATES IV Study is about 0.8 mile northwest of the MATES III site, as the previous site was no longer available. A comparison of levels for several monitored substances for the two West Long Beach sites from previous periods is shown in Appendix V. The concentrations were generally comparable and well correlated between the two sites. Maintaining the same or similar locations across the MATES studies is critical for assessing long-term air toxic trends.

The locations for the 10 fixed sites reflect key locations within the Basin and are geographically dispersed. Fixed site locations include areas varying in land-use types to obtain a good spatial representation of the Basin, including expected areas of possible elevated toxics levels (e.g.

industrial and commercial) and those areas that are not directly near source emissions (neighborhoods). The sites also reflect resource constraints and the leveraging of existing monitoring programs and the availability of specialized equipment. The sites used in MATES IV are shown in Figure 2-1.

The 10 sites were originally selected with the input from the MATES II Technical Review Group and the Environmental Justice Task Force, and precise locations are listed in Table 2-2. Five were selected to provide continuity with the CARB long-term trend sites (Los Angeles, Burbank, Long Beach, Rubidoux and Inland Valley San Bernardino). The Pico Rivera site was selected because monitoring equipment was available from the EPA-sponsored PAMS Program. Anaheim was chosen for geographic equity, such that at least one site existed in each of the four counties. West Long Beach, Compton, and Huntington Park were sites selected to examine environmental justice concerns. Because the fixed site locations are based on EPA guidelines for “neighborhood scale” monitoring, each of these sites may also be representative of adjacent communities.

Table 2-2 Mates IV Site Locations

Site	Address
Anaheim	1630 Pampas Ln
Burbank	228 W. Palm Ave.
Compton	720 N. Bullis Rd.
Inland Valley San Bernardino	14360 Arrow Highway
Huntington Park	6301 S. Santa Fe Ave.
North Long Beach	3648 N. Long Beach Blvd.
Central Los Angeles	1630 N. Main St.
Pico Rivera	3713 B-San Gabriel River Parkway
Rubidoux	5888 Mission Blvd.
West Long Beach	2425 Webster Ave.

At each site, sampling equipment included particulate samplers, VOC canisters, and carbonyl samplers, as well as equipment to measure key meteorological parameters.

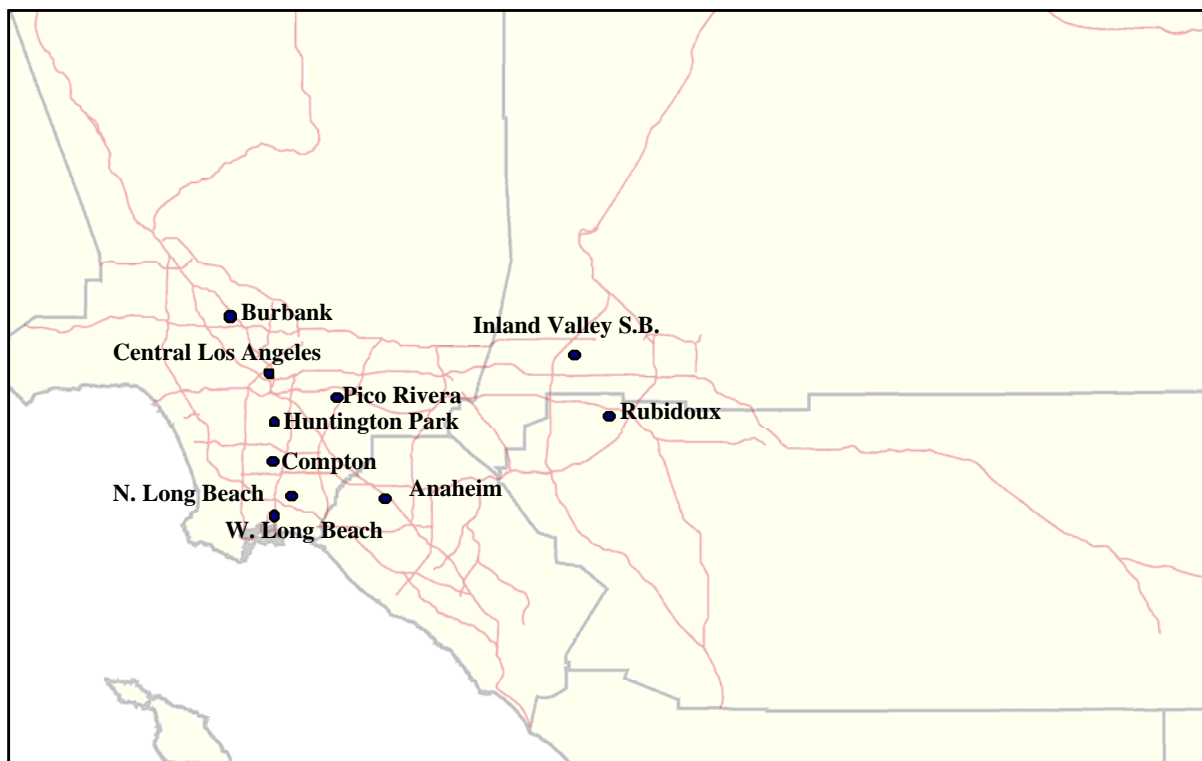


Figure 2-1 Location of MATES IV Monitoring Locations

2.2.1 Local Scale Monitoring

In addition to the 10 fixed sites, mobile monitoring platforms were deployed that focused on local scale studies at locations for short time periods.

Programs such as MATES are designed to monitor and characterize toxic emissions over the entire Basin. However, ambient monitoring is necessarily conducted at a limited number of locations, and modeling is limited to a spatial resolution of 2 km. Communities located very near industrial sources or large mobile source facilities (such as marine ports, railyards and commercial airports) can be affected by higher air contaminant levels than can be captured in the typical MATES analysis. Near-road monitoring studies and dispersion modeling results for point sources indicate that exposure can vary greatly over distances much shorter than 2 km. The local-scale monitoring program of MATES IV aims to characterize the impacts of large sources on nearby communities by utilizing portable platforms designed to sample for a period of several weeks at selected locations with an emphasis on diesel particulate matter (DPM) and ultrafine particle (UFP) emissions. The studies are designed to assess gradients in ambient pollutant levels within communities as well as provide a comparison to the fixed MATES monitoring sites. The communities chosen for sampling were chosen based on proximity to potential sources as well as environmental justice concerns.

A unique set of rapidly deployable mobile air toxics monitoring platforms using the latest technologies for continuous measurements were utilized. Continuous data, combined with continuous meteorological data, is extremely valuable in determining source locations, emission profiles, and exposure variability.

The platforms were equipped with a DustTrak DRX (TSI, Inc.) that measures the mass concentrations of different size fractions of PM continuously. UFP measurements are achieved with a Condensation Particle Counter (CPC, model 3781; TSI, Inc.), which monitors number concentrations of particles down to 6 nm in size and up to concentrations of 500,000 particles per cubic centimeter ($\#/cm^3$). A portable Aethalometer (AE22; Magee, Inc.) for real-time measurements of BC was also installed as an indicator of DPM.

The monitoring sites and results are summarized in Chapter 5.

2.3 Ambient Sampling Schedule

The MATES IV project conducted air toxics monitoring at 10 locations over a one-year period. Sampling for MATES IV followed a one-in-six day, 24-hour integrated-sampling schedule, matching the U.S EPA sampling schedule. As noted previously, black carbon (BC) and ultrafine particles (UFP, particles smaller than 0.1 μm in size) are measured in addition to the air toxics. These measurements are conducted with continuous sampling methods as described below.

All data will be submitted to the U.S. EPA's Air Quality System (AQS) after review and validation.

2.4 Monitoring and Laboratory Analysis

For MATES IV, meteorological equipment and sampling equipment for canisters, PM₁₀ and PM_{2.5} filters, and carbonyl cartridges from the existing air monitoring network were used to the extent possible. The SCAQMD laboratory provided the analytical equipment and conducted the routine analysis. The analytical methods to measure the ambient species are briefly described below and in Table 2-3. Detailed protocols are described in Appendix III.

Table 2-3 Sampling and Analysis Methods for MATES IV

Species	Sampling	Laboratory Analysis
Volatile Organic Compounds (VOCs)	Summa Polished/ Silica-Lined Canisters	Gas chromatograph – Mass spectrometer (GC-MS) with automated pre-concentration and cryo-focusing
Carbonyls	DNPH Cartridge	Solvent recovery and subsequent analysis via high performance liquid chromatography (HPLC)
Hexavalent Chromium	Cellulose Fiber Filters	Treatment with buffer solution to maintain proper pH and then subsequent analysis via ion chromatograph (IC)
Elemental and Organic Carbon	PM Filters	Section of PM filter removed and analyzed on a laser corrected carbon analyzer
TSP Metals	PM Filters	ICPMS
Black Carbon	Continuous	Aethalometer
UFP	Continuous	Condensation Particle Counters

Volatile Organic Compounds

Volatile organic compounds (VOCs) are measured from air samples collected in either summa polished or silica-lined six-liter canisters using an automated canister sampler to fill at a constant rate over a 24-hour time period, depending upon the site. The filled canisters are brought back to the laboratory for analysis within 48 hours of the sample being collected. VOCs are identified

and measured using gas chromatograph mass spectrometry (GC-MS). The SCAQMD currently has two GC-MS instruments running U.S. EPA's TO-14 and TO-15 methods. These instruments are equipped with automated canister pre-concentrators attached to the GC to enable continuous analysis.

Carbonyl Compounds

Carbonyl compounds are sampled by drawing air continuously through a DNPH (2,4-Dinitrophenylhydrazine) cartridge. The carbonyl compounds undergo derivatization with DNPH, and the derivatives are analyzed using High Performance Liquid Chromatography (HPLC) in accordance with U.S. EPA Method TO-11.

PAHS

Naphthalene and other polycyclic aromatic hydrocarbons (PAHs), components of both mobile source and stationary source emissions, were measured at selected monitoring sites. PAHs were measured at three of the MATES IV monitoring stations: Central Los Angeles, North Long Beach, and Rubidoux. Samples were collected and analyzed under the EPA NATTS Program. The Central Los Angeles and Rubidoux sites are part of the NATTS network, and the Long Beach site was added for a period of one year coinciding with the MATES IV monitoring.

Hexavalent Chromium

Hexavalent chromium (Chrome VI) is analyzed using ion chromatography (IC). Sample collection involves drawing air at a prescribed rate for 24 hours through a cellulose fiber filter. The filter is treated with sodium bicarbonate to prevent conversion of Chrome VI to Chrome III. Chrome VI is extracted from the filter by sonication and subsequently analyzed using IC.

Particulate Matter

Total suspended particulates (TSP), particulates less than 10 microns (PM_{10}) and particulates less than 2.5 microns ($PM_{2.5}$) are collected separately over a 24-hour period using size selective inlets according to U.S. EPA's Federal Reference Methods (40CFR50).

Metals in TSP samples are determined using ICPMS, and metals in $PM_{2.5}$ samples are determined by Energy Dispersive X-Ray Fluorescence Spectrometry. Identification of ions within the PM samples is performed by IC.

Carbon analysis is conducted by taking a small circular disk from sampled PM_{10} or $PM_{2.5}$ filters. The small circular disk is placed into a carbon analyzer which utilizes thermal optical transmittance method (IMPROVE method) to measure the OC and EC content of the filter.

BC and UFP

BC measurements were carried out using Aethalometers. Briefly, this instrument utilizes the light-absorbing properties of BC which is related to the particulate BC mass concentration.

UFP number concentration data were collected continuously (i.e. one-min. time resolution) using water-based Condensation Particle Counters. This instrument provides the total number concentration of particles above 7 nm in real-time.

Additional details of the methods are in Appendix III.

Results for the BC and UFP monitoring are summarized in Chapter 5.

Diesel Particulate Matter

For MATES II, diesel PM was estimated using ambient measurements of EC combined with Basin-wide EC emissions inventories to determine the contribution of diesel emissions to ambient PM levels. For MATES III, several methodologies to assess the levels of diesel PM were explored. These methods included the following:

- Using ambient EC levels as in MATES II
- Using ambient EC and the ratio of $PM_{2.5}$, EC, and diesel PM emissions from the 2005 emissions inventory
- Using the EPA Chemical Mass Balance model (CMB) to apportion source emissions to $PM_{2.5}$

Based on the results of these analyses, the CMB and the ratio of EC to diesel PM from the emissions inventory were used to estimate ambient levels of diesel PM in MATES III. The overall Basin average was nearly the same for these methods. Given this close correspondence, the method based on the ratio of EC to diesel PM emissions, updated with the most recent emissions inventory, was used for the MATES IV diesel PM estimates.

2.5 Quality Assurance and Quality Control (QA/QC)

The SCAQMD is one of the four Primary Quality Assurance Organizations (PQAO) responsible for air monitoring in California, and is committed to achieving the highest possible data quality level in the MATES and several other environmental monitoring programs. The Quality Management Plan (QMP), which is the foundation document for ensuring high quality and defensible data (approved in 2009) presents SCAQMD quality system and describes the organizational structure, functional responsibilities of management and staff, lines of authority, and general methodology for assessing all activities conducted in support of air monitoring and analysis, air quality assessment and other environmental measurement activities conducted by the agency.

The quality goals and QA requirements for the particle and gaseous pollutants measured during MATES are found in various Quality Assurance Project Plan (QAPP) documents as outlined in the following paragraphs. These QAPPs also describe the responsibilities within the organization for carrying out each program and meeting specific QA/QC objectives. They address the Data Quality Objectives (DQOs) of accuracy, bias, comparability, completeness, detectability and representativeness, list the Method Quality Objectives (MQOs) of precision, bias, completeness, sensitivity and, where applicable, flow rate accuracy for the analytes of interest. They document the Standard Operating Procedures (SOPs) and Operational Assistance Guides (OAGs) which are directions for specific performing measurement activities. Finally, they list the required QA/QC requirement for each activity and provide instructions for data review, QA oversight, and corrective actions.

The quality goals and QA requirements (with the exception of siting) for monitoring ambient levels of volatile organic compounds (VOCs), carbonyls, hexavalent chromium, and polycyclic aromatic hydrocarbons (PAHs) were adopted from the U.S. EPA National Air Toxics Trends Stations (NATTS) Program. These requirements can be found in the SCAQMD NATTS QAPP,

which was last revised in 2013 and is currently under review by the U.S. EPA Region 9.

The quality goals and QA requirements (with the exception of siting) for monitoring the main components of fine particulate matter (PM_{2.5}) including Organic and Elemental Carbon (OC/EC), Anions and Cations, and trace metals were adopted from the U.S. EPA Chemical Speciation Network (CSN) program. These requirements can be found in the SCAQMD PM_{2.5} Speciation QAPP, which was last revised in 2013 and was approved by the U.S. EPA Region 9 in 2014.

The quality goals and QA requirements (with the exception of siting) for monitoring fine and coarse PM (PM_{2.5} and PM₁₀ FRM) were adopted from the U.S. EPA Criteria Pollutant Monitoring Program. These requirements can be found in the SCAQMD Criteria Pollutant Monitoring Program QAPP, which was last revised in 2012 and approved by the U.S. EPA Region 9 in 2013.

The quality goals and QA requirements (with the exception of siting) for monitoring ultrafine particles (UFPs) and black carbon (BC) can be found in the SCAQMD Special Monitoring Program QAPP, which also describes the protocols and procedures followed by SCAQMD for monitoring other "non-criteria" pollutants and performing short-term measurement studies similar to those conducted during MATES IV (see Chapter 5 for details). The current version of this QAPP was last revised in 2013 and is currently awaiting approval by the U.S. EPA Region 9.

The SCAQMD objectives, procedures, documentation, and data review techniques assure the MATES program will produce data that are accurate, precise, reliable and legally defensible. The technical procedures for QA/QC include annual system audits on all equipment in the laboratory and at all MATES sampling sites. Quality control procedures also include proper record keeping, standard checks, routine calibrations of the sampling and analytical equipment, and collecting collocated samples at regular intervals.

2.6 Findings

The findings are presented in terms of the annual average concentrations of air toxics measured at each site as well as Basin-wide, and then by the estimated cancer risks resulting from exposures to these average concentrations. Air toxic levels are also compared to levels found in the MATES II and the MATES III Studies to assess trends in levels of air toxics in the Basin. In the following charts, the error bars denote the 95% confidence interval of the average. In general, concentrations of most toxics substantially decreased compared to levels measured previously.

2.6.1 Volatile Organic Compounds (VOCs)

Figures 2-2 and 2-3 present levels for benzene and 1,3-butadiene, which are emitted predominantly from gasoline-powered mobile sources. Benzene shows a continuing reduction in annual average levels. These decreases are likely reflective of reduced emissions from vehicle fleet turnover to newer vehicles and use of reformulated gasoline. 1,3-butadiene shows a similar annual level compared to MATES III. This may in part be due to challenges of measuring low levels of this substance and its high reactivity.

Levels of the chlorinated solvents perchloroethylene and methylene chloride are shown in Figures 2-4 and 2-5. Perchloroethylene shows a continuing reduction in levels, likely a result of a number of air quality rules leading to the gradual phase-out of its use as an industrial and dry cleaning solvent in the South Coast. Methylene chloride shows similar levels on average, with some sites showing increased averages. These levels likely reflect the use as a solvent and may be influenced by specific activities near the monitoring locations.

Formaldehyde and acetaldehyde concentrations are shown in Figures 2-6 and 2-7. There was a reduction in the average levels compared to the MATES II and MATES III Studies. Formaldehyde is emitted from mobile sources and is also formed as a secondary pollutant through chemical reactions in the atmosphere.

2.6.2 Metals

Levels of several air toxic and other metals are shown in Figures 2-8 to 2-12.

The air toxics arsenic and cadmium levels are shown in Figures 2-8 and 2-9. Both metals show declines, but for cadmium this may be more affected by improved analysis techniques allowing for lower reporting levels for MATES IV compared to previous studies.

Figures 2-10 and 2-11 show the levels of two more air toxics, lead and nickel. Lead concentrations were reduced compared to MATES II and III, and the values are well below the Ambient Air Quality Standard for lead of 150 ng/m³. Nickel concentrations also decreased Basin-wide and at most sites.

Hexavalent chromium concentrations are shown in Figure 2-12. It should be noted that as found in previous studies, localized increases in hexavalent chromium can occur near facilities using hexavalent chromium-containing materials, such as metal platers, facilities using chromium containing paints, or cement manufacturing plants. The monitoring locations in this study, however, are focused on regional levels of air toxics. Thus, localized areas of increased exposure may not be picked up in the monitoring. The annual averages at the monitoring locations were substantially lower than the previous MATES studies. This may be due in part to better sampling and analysis methods with lower blank sample levels as well as ongoing emissions reductions (see discussion below).

For the MATES III Study, the Rubidoux site showed an increase in average hexavalent chromium levels which were eventually traced to cement plants in the area. This led to the adoption of amendments to SCAQMD rules for cement facilities addressing hexavalent chromium emissions. The levels from MATES IV reflect these rule changes as well as reduced activity at the cement plants with hexavalent chromium levels greatly reduced and now comparable to those of other sites.

In previous studies, it was recognized that there can be a measurable value for hexavalent chromium in unsampled (blank) filters. To determine the extent of this, trip blanks were periodically taken and the average values are also shown in Figure 2-12. Note that the blank values have been substantially reduced with improvements in the measurement methodologies. These include more sensitive instrumentation, and a rigorous washing of the collection filters before use. When estimating risk from exposure to hexavalent chromium, the average blank

value is subtracted from the site averages.

2.6.3 Elemental Carbon

Elemental carbon (EC) was measured in PM_{2.5} samples as well as the PM₁₀ samples. The results are shown in Figures 2-13 and 2-14. Both showed significant reductions in average levels compared to previous studies. PM₁₀ EC was lower by about 25% compared to the MATES III levels, and PM_{2.5} EC was lower by 35%. These reductions are likely due to reduced emissions from mobile sources, including diesel fueled vehicles, as a result of various rules limiting emissions.

2.6.4 Diesel PM

In the MATES II Study, EC was used as a surrogate for diesel particulate levels, as staff determined that this was the best method available during the MATES II Study. For the MATES III Study, staff also used the Chemical Mass Balance (CMB) source apportionment technique to estimate the contribution from diesel, as well as from other major source categories, to the measured particulate levels. The CMB model was utilized based on the recommendation of the MATES III Technical Advisory Group.

To compare the different methods to estimate diesel particulate levels, the method used in MATES II, which was based on the emissions ratios of diesel particulate and elemental carbon from a study conducted in the South Coast in the 1980's, and a method based on the ratio of PM_{2.5} emissions from the 2005 emissions inventory were also calculated. For MATES II, the PM_{2.5} elemental carbon levels were multiplied by 1.04 to estimate diesel particulate. For MATES III, the 2005 inventory resulted in a ratio of diesel particulate to elemental carbon emissions of 1.95. The CMB model used in MATES III used several measured species of PM_{2.5} compared to PM_{2.5} emissions source profiles to estimate the contribution of these sources to ambient PM_{2.5} levels.

The MATES III estimates using the ratio and CMB methods were compared and are shown in Table 2-4.

As shown in the table, both the CMB model and the updated PM_{2.5} emissions ratio method gave comparable estimates of the overall average for DPM.

Table 2-4 MATES III Estimates of Average Diesel PM, µg/m³

Estimation Method	MATES III Year One	MATES III Year Two
MATES II method: PM ₁₀ EC x 1.04	2.18	2.14
2005 Inventory: PM _{2.5} EC x 1.95	3.37	3.70
CMB	2.87 – 3.13	3.52 – 3.84

Given the comparability found in MATES III, the expense of the CMB analysis, and in consultation with the MATES IV Technical Advisory Group, DPM in the MATES IV Study was estimated using the ratio of the emissions of diesel particulate to elemental carbon in the PM_{2.5} fraction (updated for the 2012 emissions inventory) multiplied by the ambient levels of PM_{2.5} EC

to give an estimate of ambient DPM. The complete 2012 emissions estimates are provided in Appendix VIII and the total emissions and resulting ratio are shown in Table 2-5.

Table 2-5 2012 Emissions of Diesel PM and EC, lbs./day

PM _{2.5} Diesel PM	PM _{2.5} EC	DPM/EC Ratio
18,867	23,163	0.815

To compare the estimated diesel PM levels from MATES IV and MATES III, the emissions ratio method was applied to the PM_{2.5} EC levels. These estimates are shown in Figure 2-15. Since there were changes in both the PM_{2.5} EC as well as the emissions inventory ratio of EC to DPM, the reductions in diesel PM ambient concentration estimates are larger than the declines in EC levels. The concentrations of diesel PM were thus about 70% lower in MATES IV compared to MATES III. This difference is consistent with that of the emissions inventory, which showed a decline in diesel PM_{2.5} emissions of about 66% from the 2005 inventory to the 2012 inventory. Additional discussion of this approach is in Appendix XI.

2.6.5 Naphthalene and Other PAH Compounds

Limited measurements of naphthalene and other PAHs (polycyclic aromatic hydrocarbons) were taken at three sites, as shown in Figure 2-16.

Naphthalene levels were on average much higher than that of other PAHs, in line with previous observations in the Basin. For the three sites, Central Los Angeles showed the highest average levels of naphthalene. A similar pattern for the sum of the other PAHs was found. Figure 2-16 also shows the comparison with MATES III data indicating that levels were generally lower during the MATES IV time frame. The levels of naphthalene, for example, were lower in MATES IV by about 25% at the Central Los Angeles site and lower by about 46% at the Rubidoux site.

2.7 Cancer Risk Estimates

There are inherent uncertainties in risk assessment, as discussed in the Introduction of this report and in the OEHHA Air Toxics Hot Spots Program Risk Assessment Guidelines (August 2003)¹. Despite these uncertainties, risk assessment remains the most useful tool to estimate the potential health risks due to low level environmental exposures. This tool is also useful as a yardstick to measure progress in attaining healthful air quality.

In the MATES II and III Studies, cancer risks were estimated for exposure to the measured ambient levels of air toxics. The estimates assume that a lifetime exposure (70 years) occurs at these levels, consistent with guidance on risk assessment established by OEHHA. We use the same methodology to estimate risks from the levels of toxics measured during MATES IV.

Figures 2-17 and 2-18 show the estimated cancer risks for the toxics measured at each site for the MATES IV Study. Included for the three sites where measurements were taken are the risks

¹ California Environmental Protection Agency Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments. August 2003.

from naphthalene and other PAHs for which there are adopted cancer potency values. The sites average includes the PAHs using the three-site average value. Note that the PAHs are relatively small contributors to the overall average risk. The average level of naphthalene, the largest contributor, was 104 ng/m³ across the three sites. This equates to a 70-year risk of about three in one million.

Average risks are dramatically reduced from previous studies. The average risk is about 420 per million. This compares to about 1,400 per million in the MATES II Study, and about 1,200 per million in the MATES III Study. As shown in the charts, diesel particulate has been and still is the major contributor to air toxics risk, and the bulk of the reductions in risks can be attributed to lower levels of ambient diesel particulate. It should be noted that different methods were used to estimate diesel particulate levels in the MATES II Study, so the results are not strictly comparable. However, based on the discussion above, the MATES II Study method may have underestimated the levels of diesel particulate.

On average, diesel particulate contributes about 68% of the total air toxics risk. This is a lower portion of the overall risk compared to the MATES III estimate of about 84%.

2.7.1 Updates to Cancer Risk Estimation Methods

Staff notes that after the Draft MATES IV Report was released, OEHHA updated the methods for estimating cancer risks.² The revised method includes utilizing higher estimates of cancer potency during early life exposures. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, staff estimates that risks for the same inhalation exposure level are about 2.5 times higher using the proposed updated methods.³ This would be reflected in the average lifetime air toxics risk estimated from the monitoring sites data going from 418 per million to 1023 per million. The previous method is used to compare results with past studies throughout this report. However, whether the previous method or the updated method is applied, the same relative changes in risks would result when compared to previous MATES study measurements.

A comparison of risks using the updated methodology for the 10 monitoring sites is shown in Figure 2-19.

² California Environmental Protection Agency Office of Environmental Health Hazard Assessment, Air Toxics Hot Spots Program Risk Assessment Guidelines. The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments, February, 2014

³ In the October, 2014 Draft MATES IV Report, the increased in risk estimates was given as a 2.7 fold increase. This was based on using the 90th percentile of breathing rate distribution. In anticipation of CARB guidance for risk management, we have used the 80th percentile of the breathing rate distribution for ages greater than 2 years. This resulted in a 2.45 fold change in the estimate of risk.

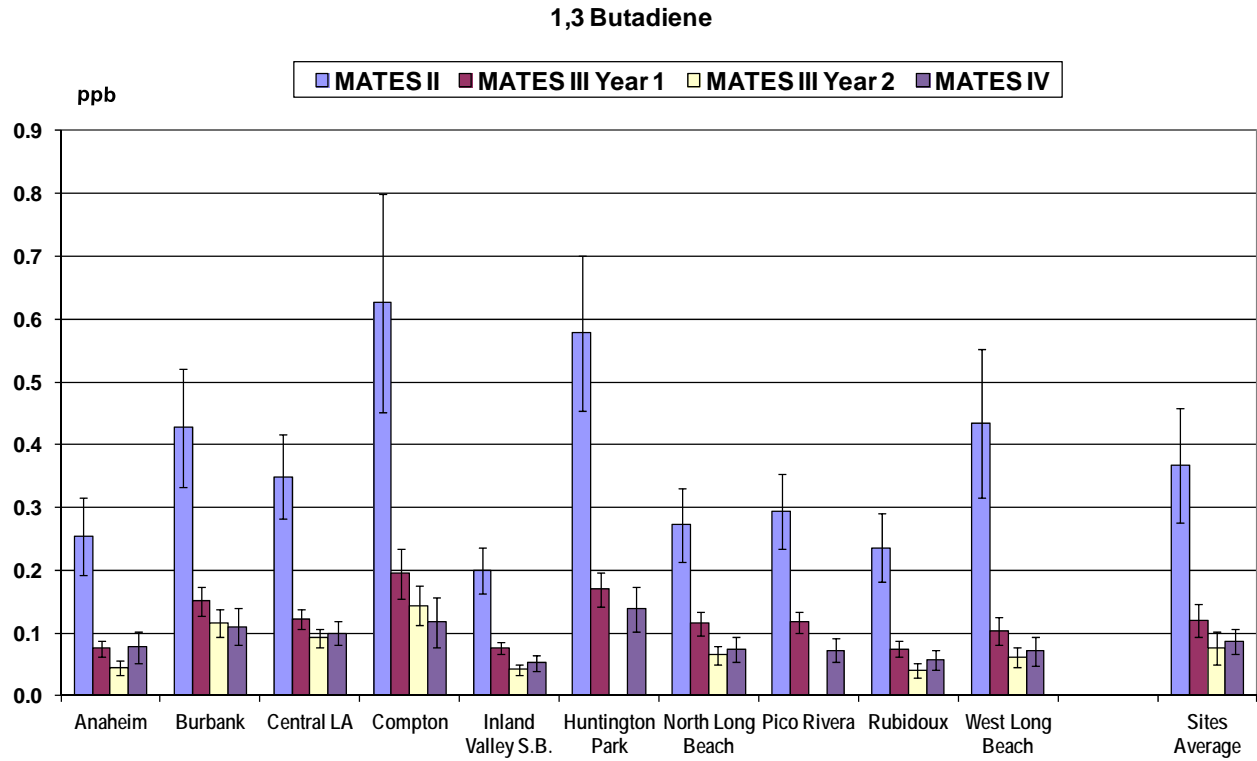


Figure 2-2 Average Concentrations of 1,3-Butadiene

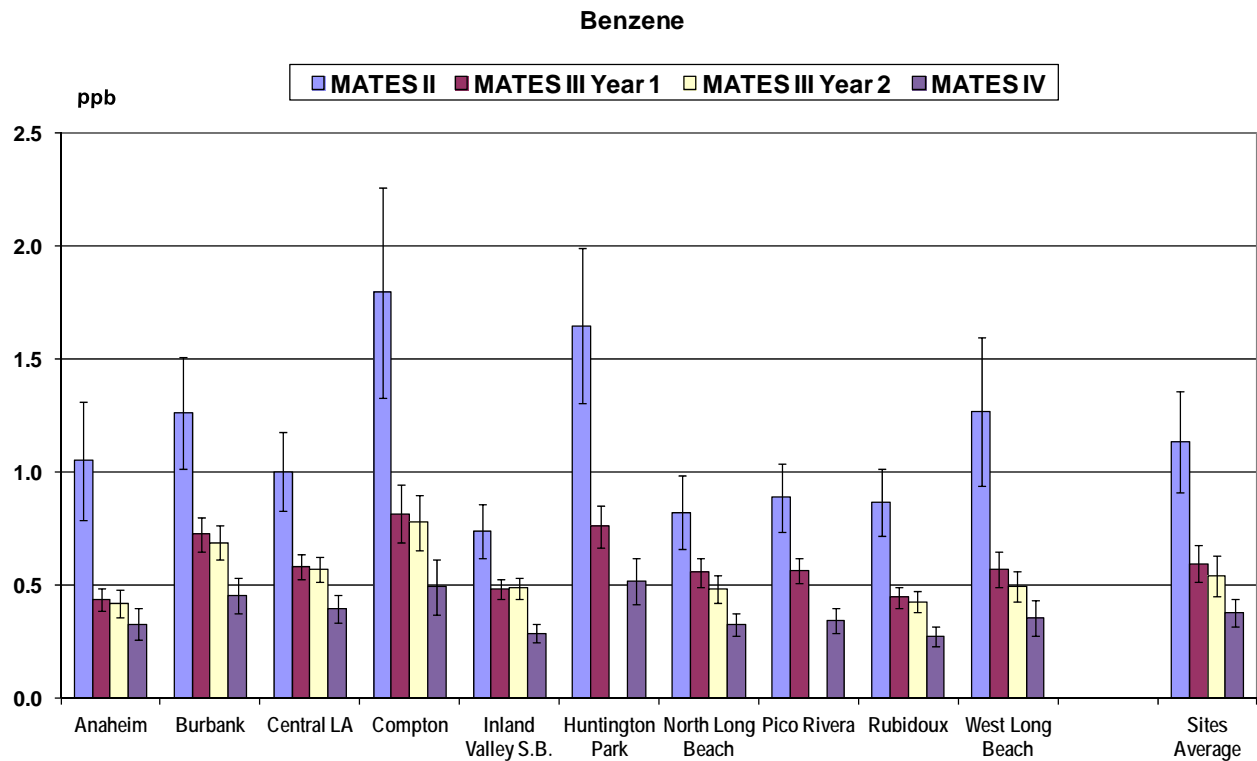


Figure 2-3 Average Concentrations of Benzene

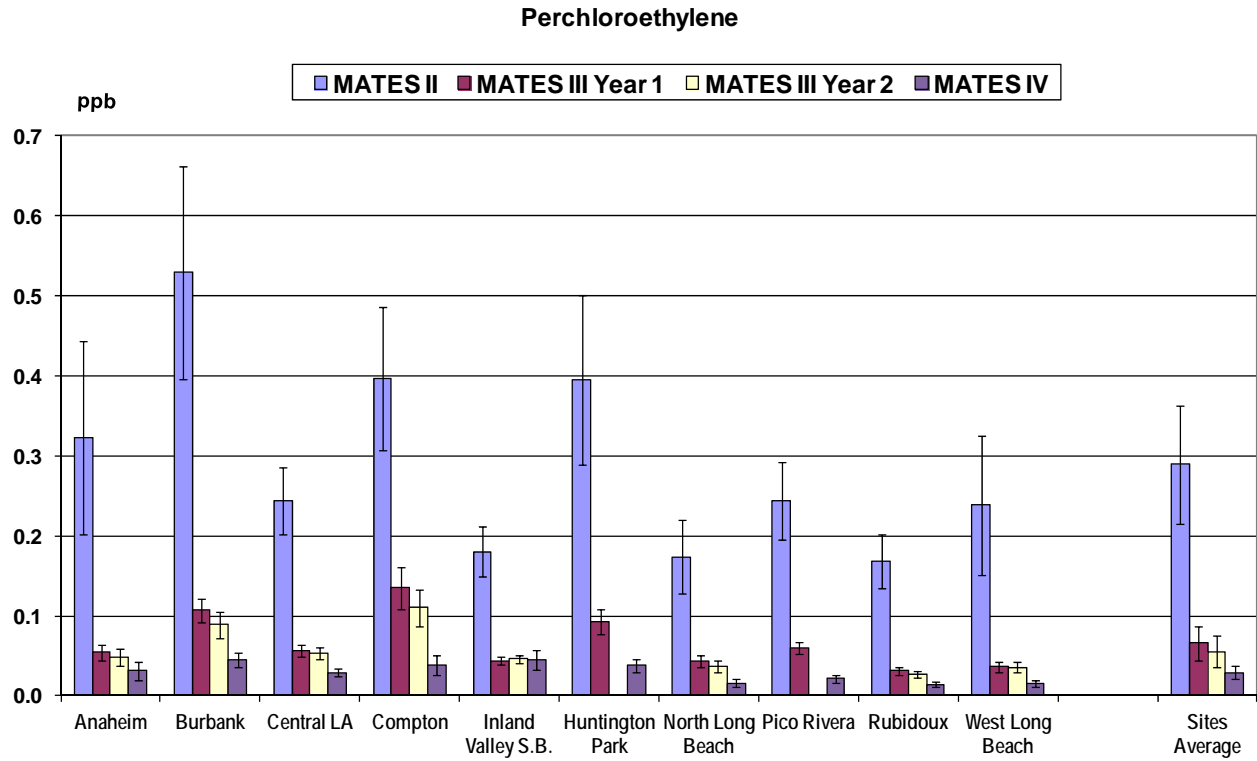


Figure 2-4 Average Concentrations of Perchloroethylene

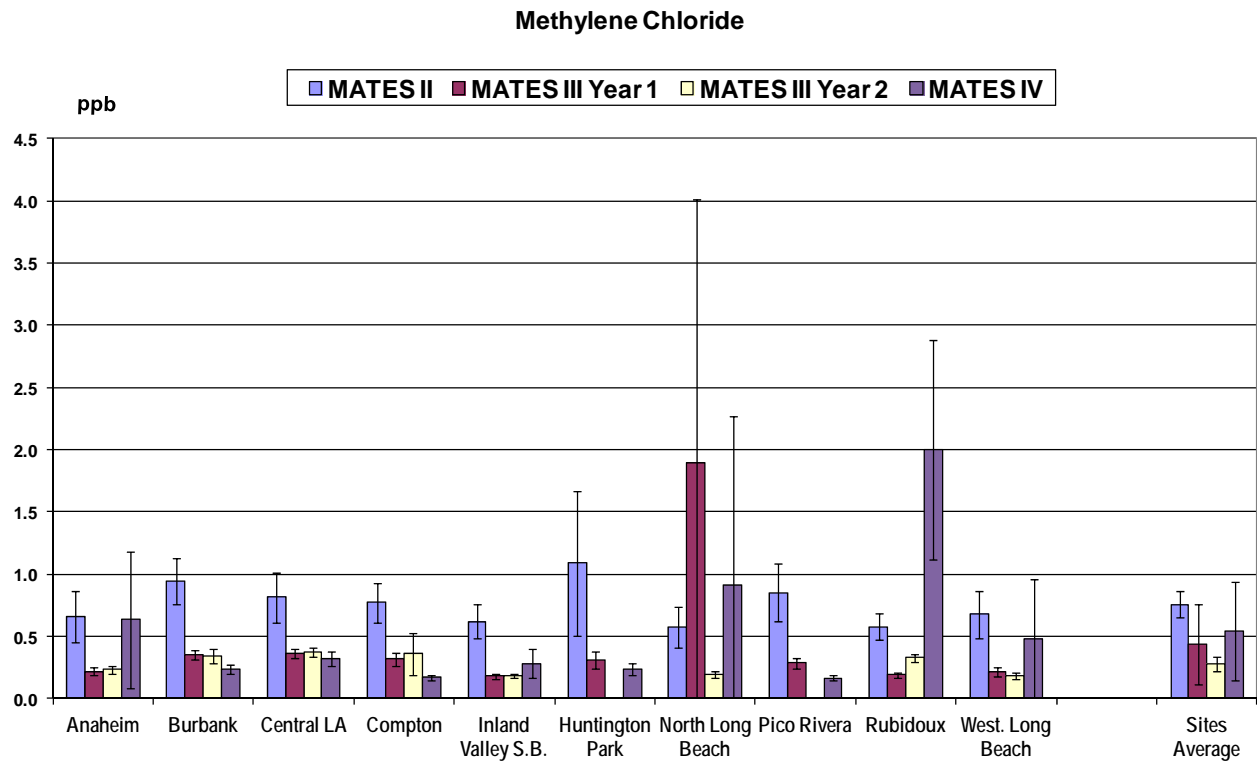


Figure 2-5 Average Concentrations of Methylene Chloride

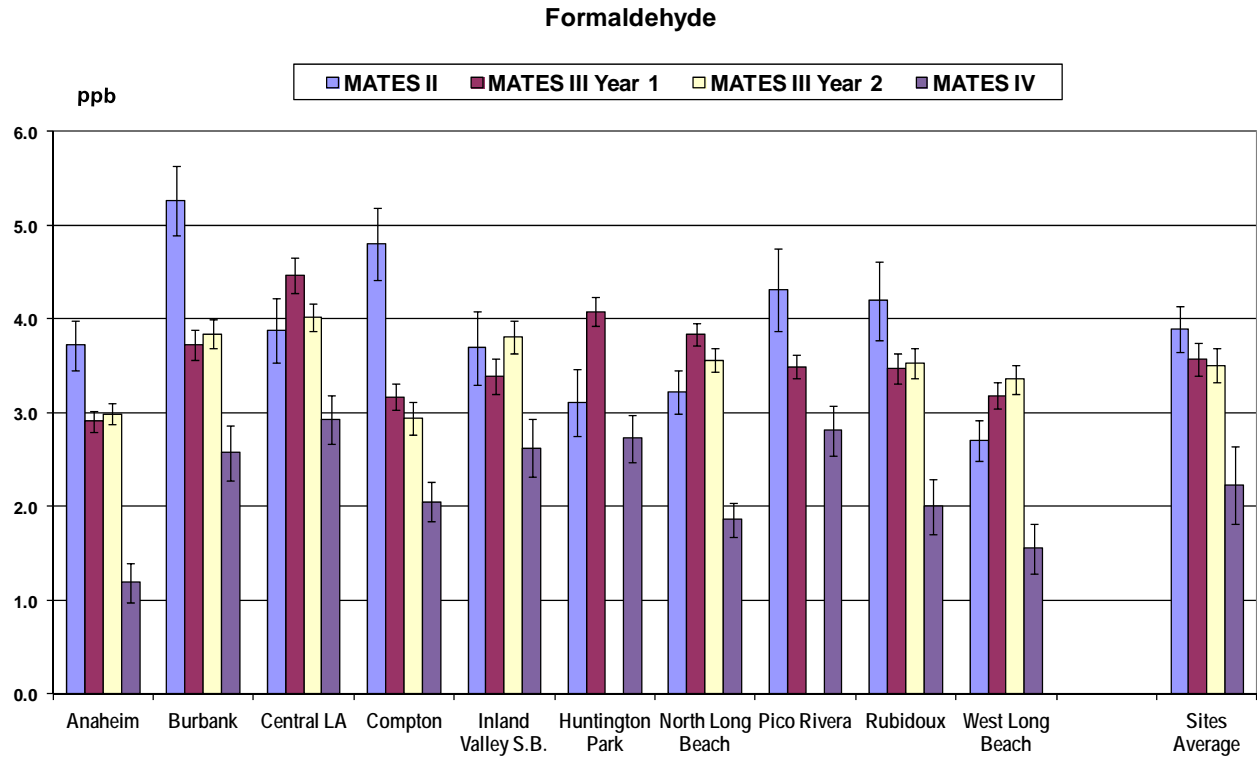


Figure 2-6 Average Concentrations of Formaldehyde

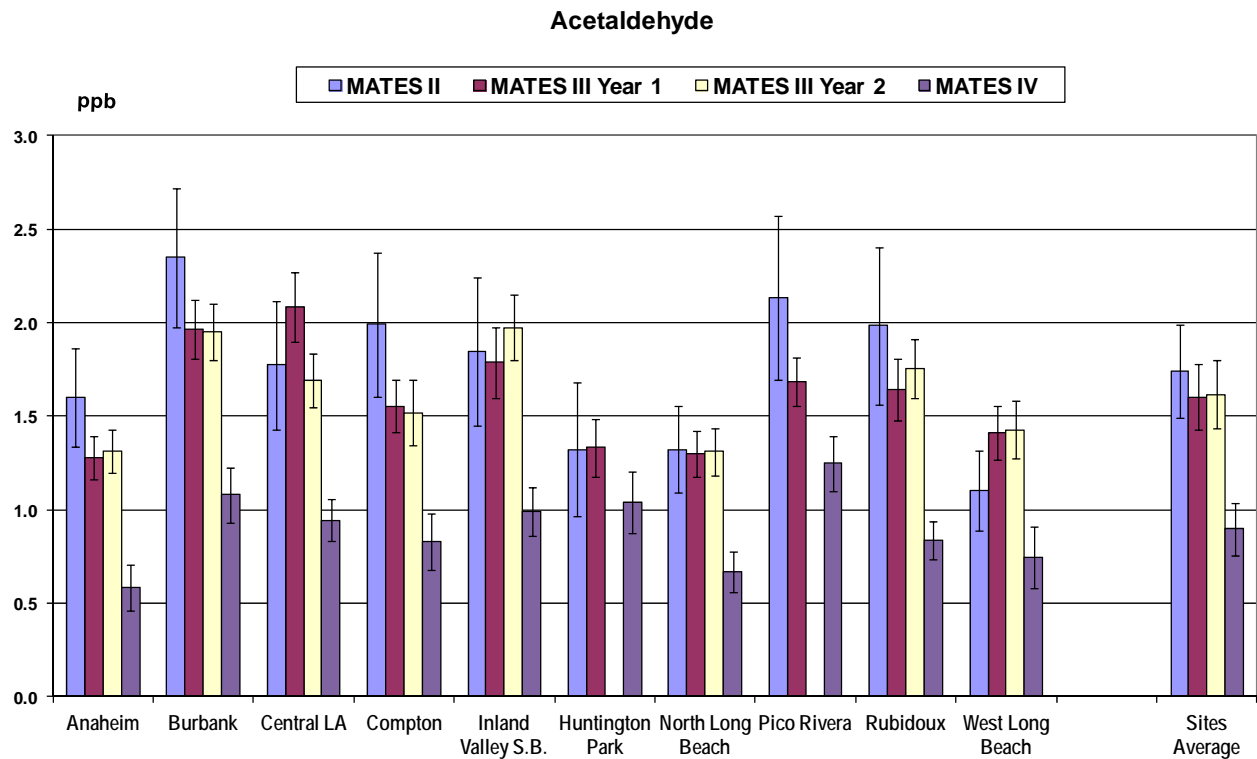


Figure 2-7 Average Concentrations of Acetaldehyde

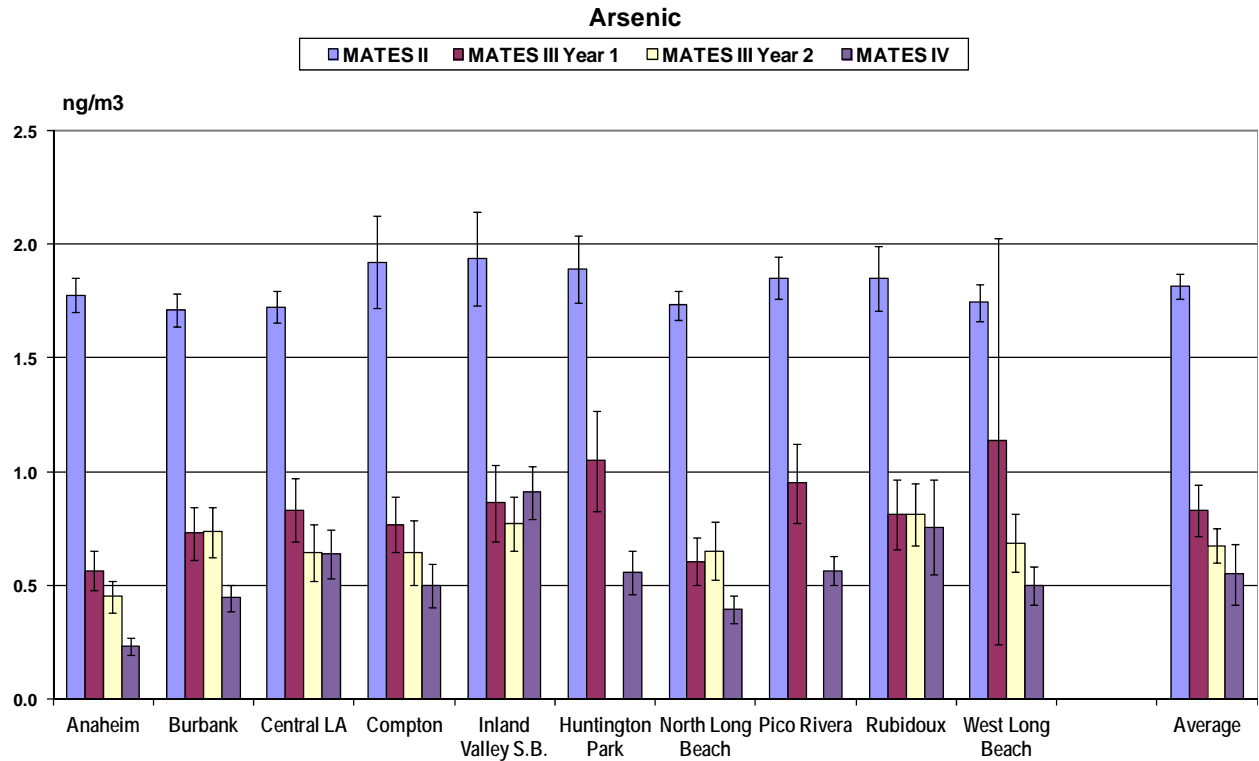


Figure 2-8 Average Concentrations of Arsenic in Total Suspended Particulate (TSP)

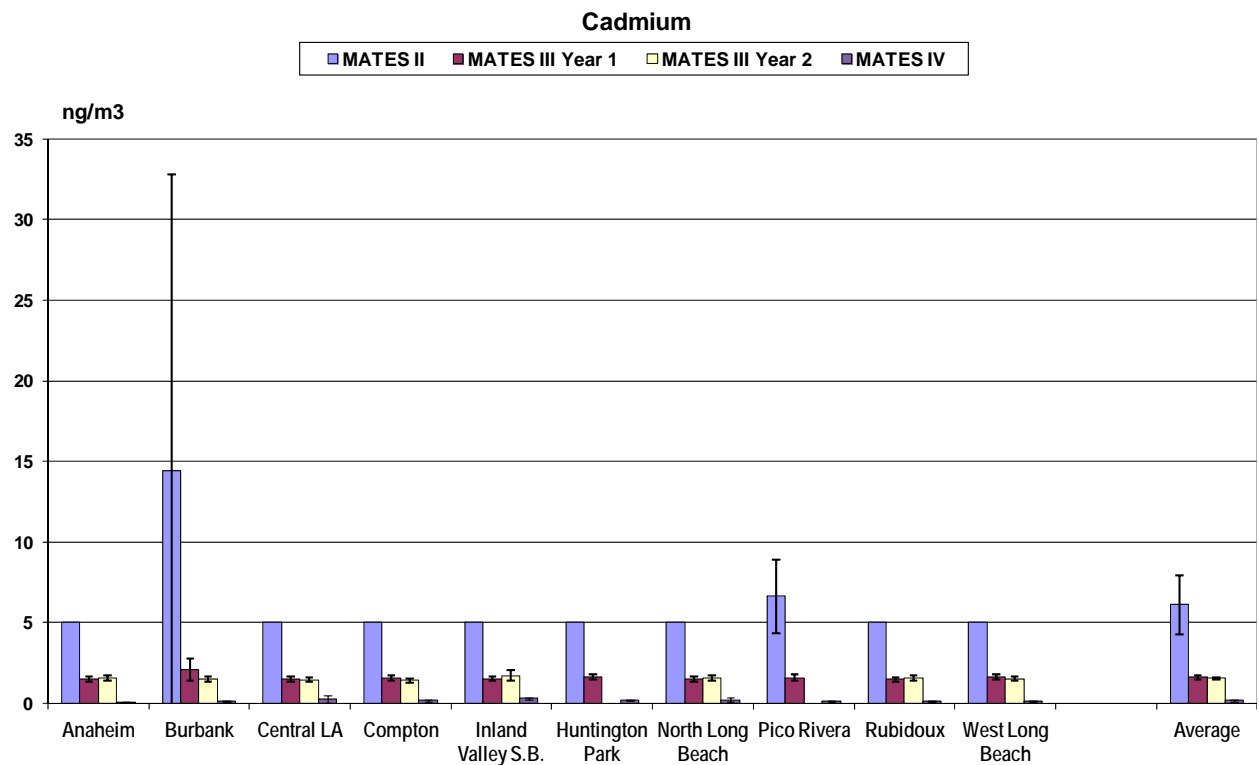


Figure 2-9 Average Concentrations of Cadmium in Total Suspended Particulate (TSP)

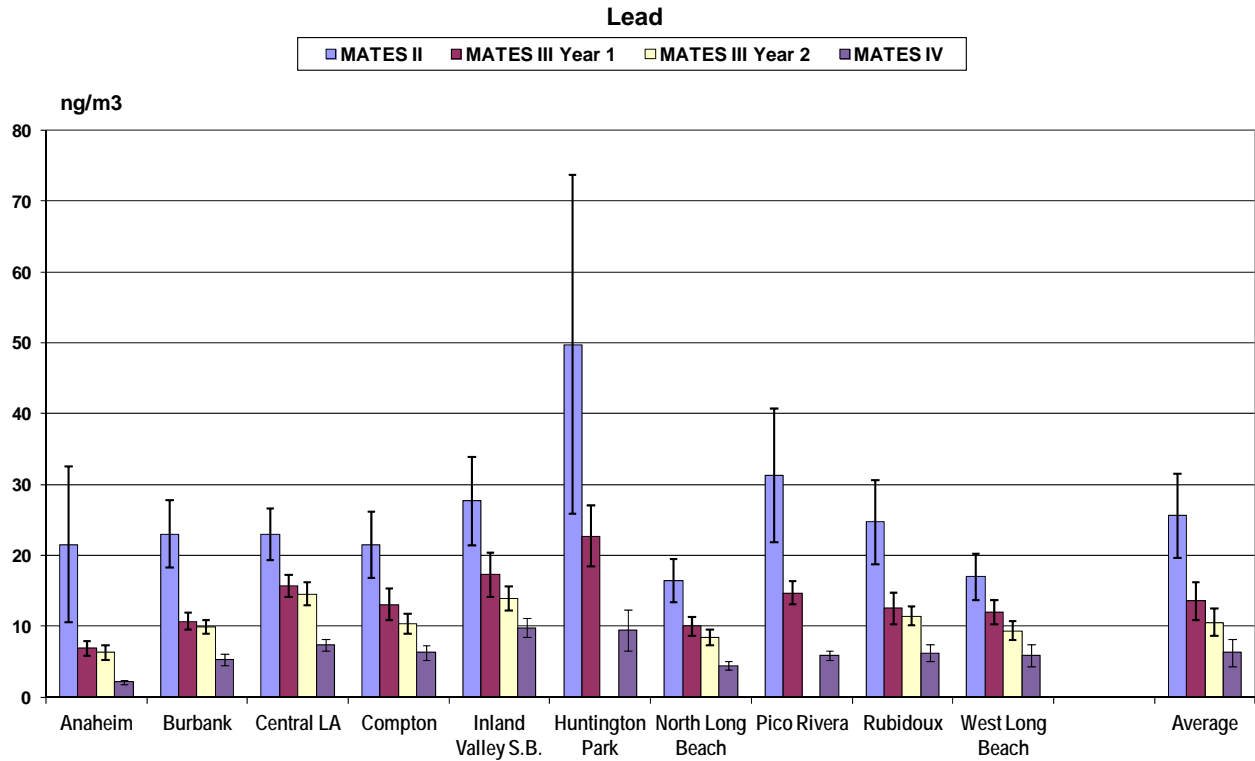


Figure 2-10 Average Concentrations of Lead in Total Suspended Particulate (TSP)

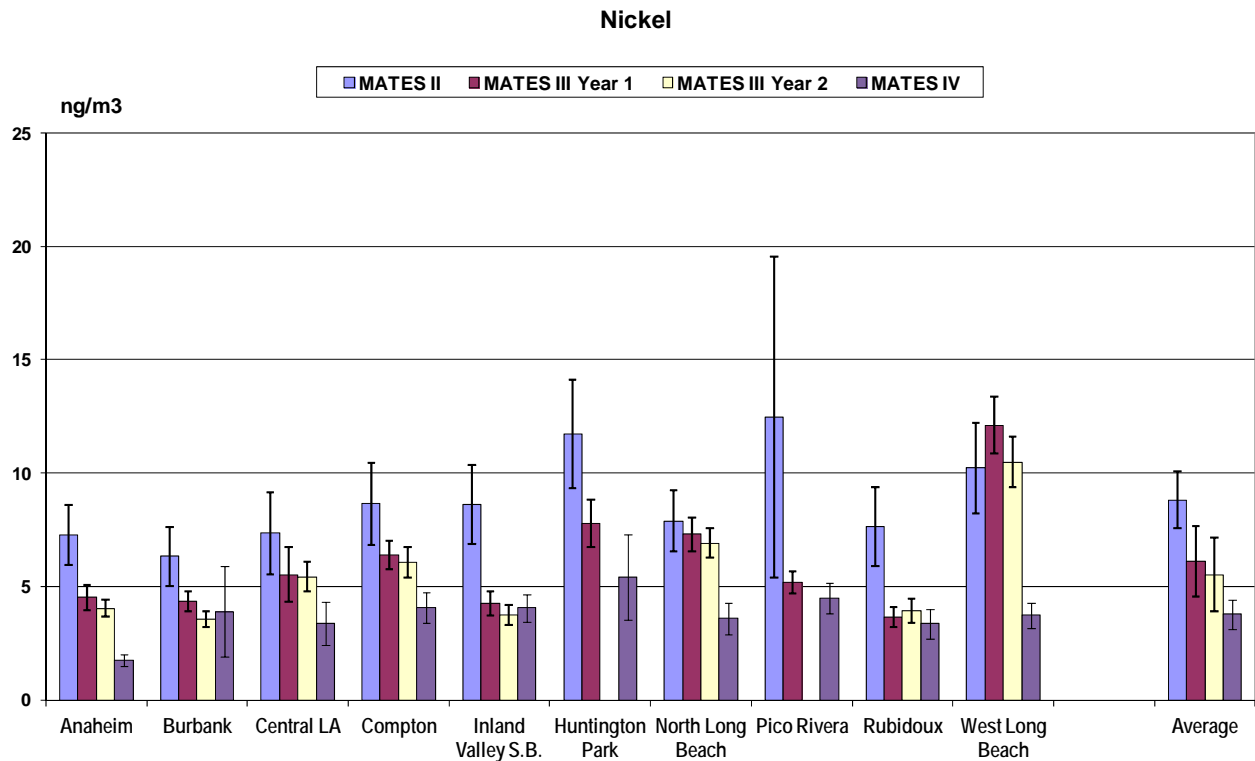


Figure 2-11 Average Concentrations of Nickel in Total Suspended Particulate (TSP)

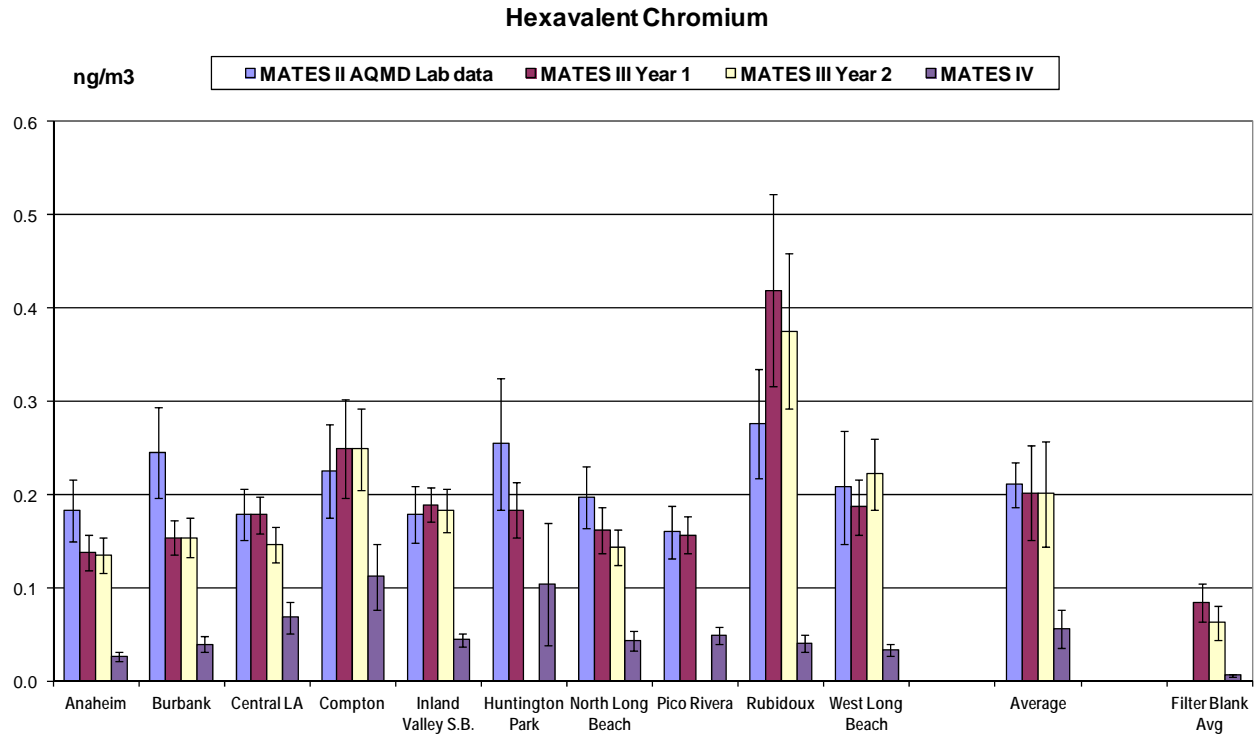


Figure 2-12 Average Concentrations of Hexavalent Chromium in Total Suspended Particulate (TSP)

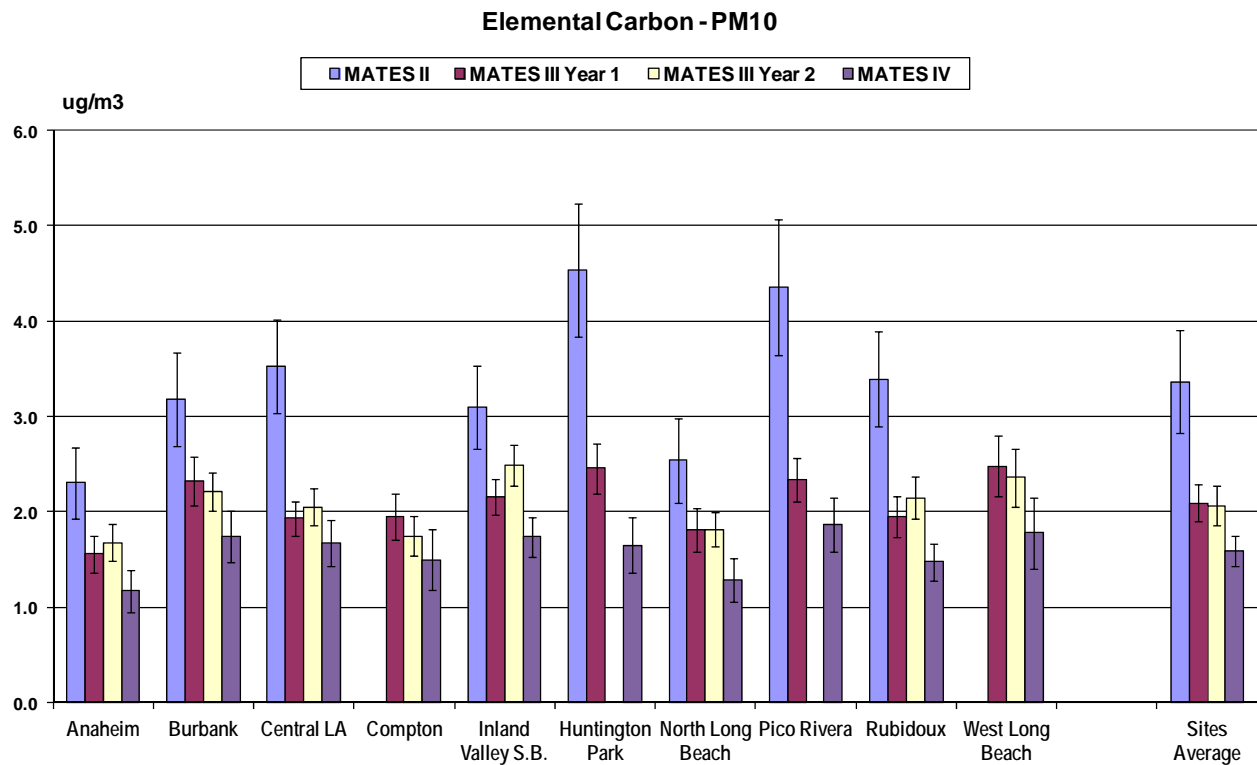


Figure 2-13 Average Concentrations of PM₁₀ Elemental Carbon (EC)

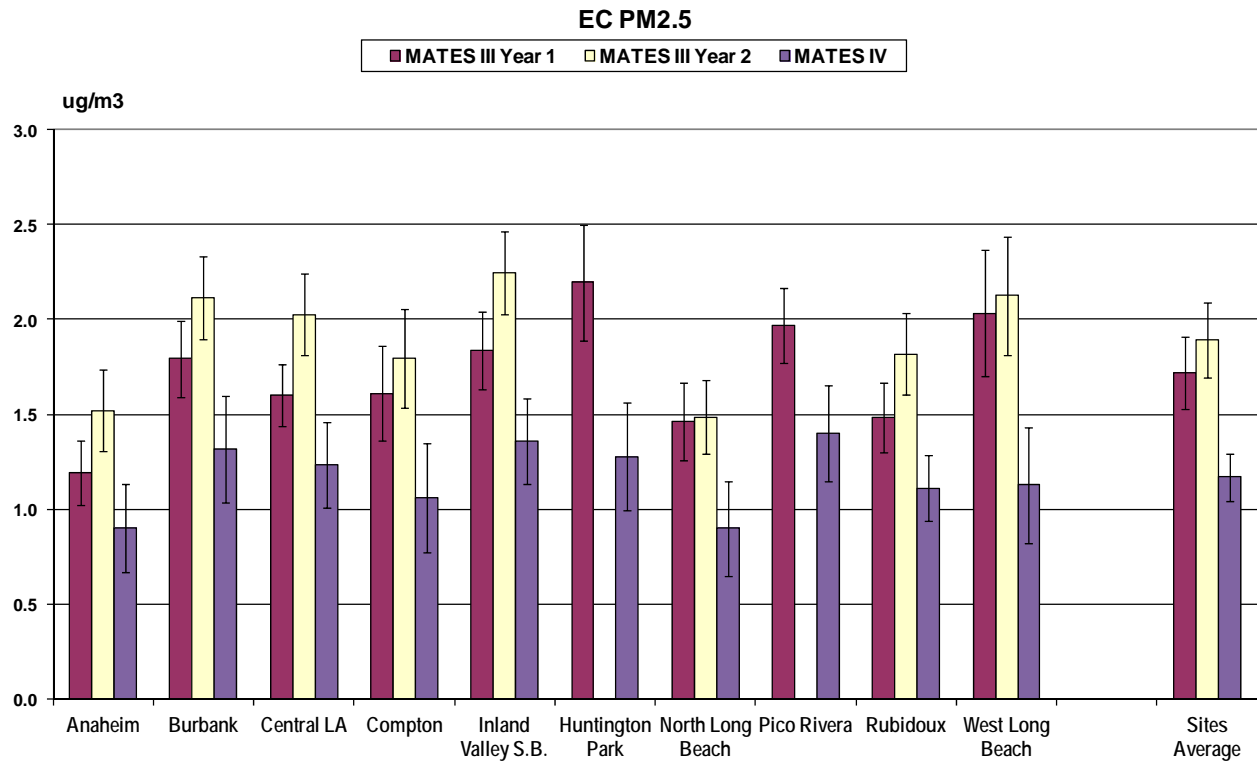


Figure 2-14 Average Concentrations of PM_{2.5} Elemental Carbon (EC)

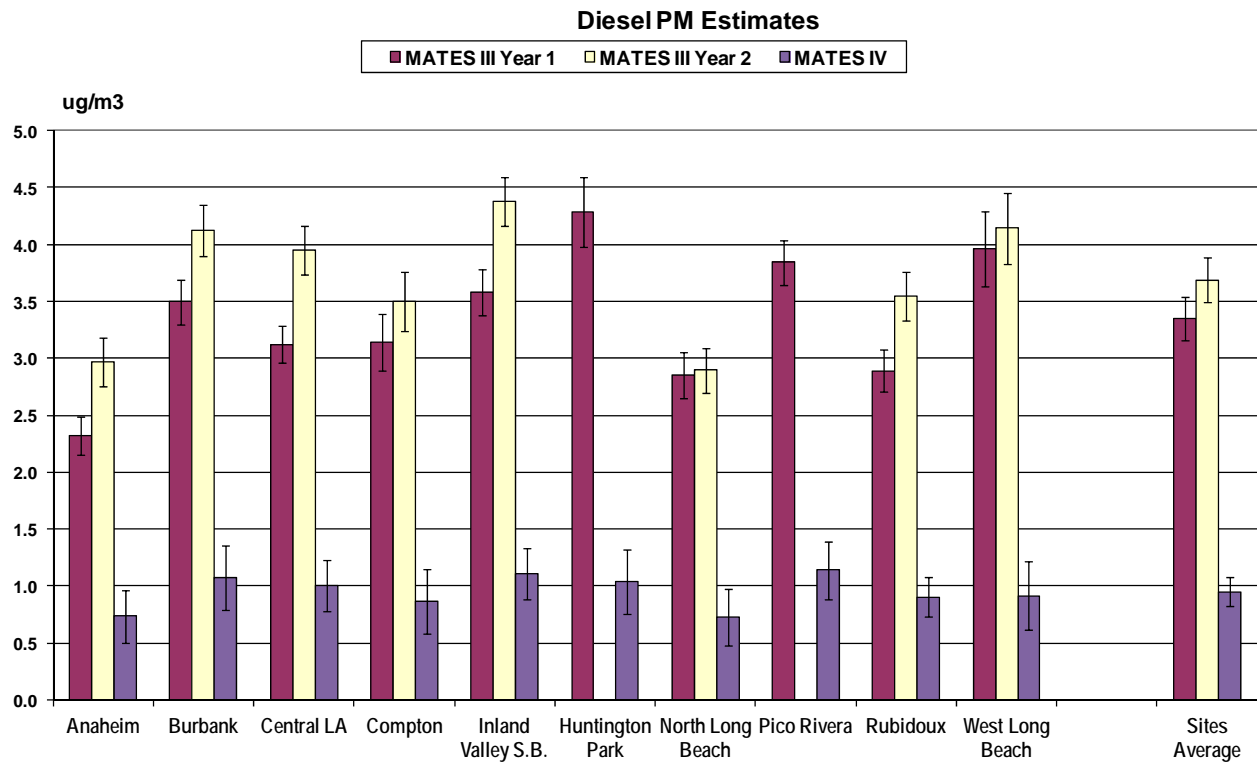
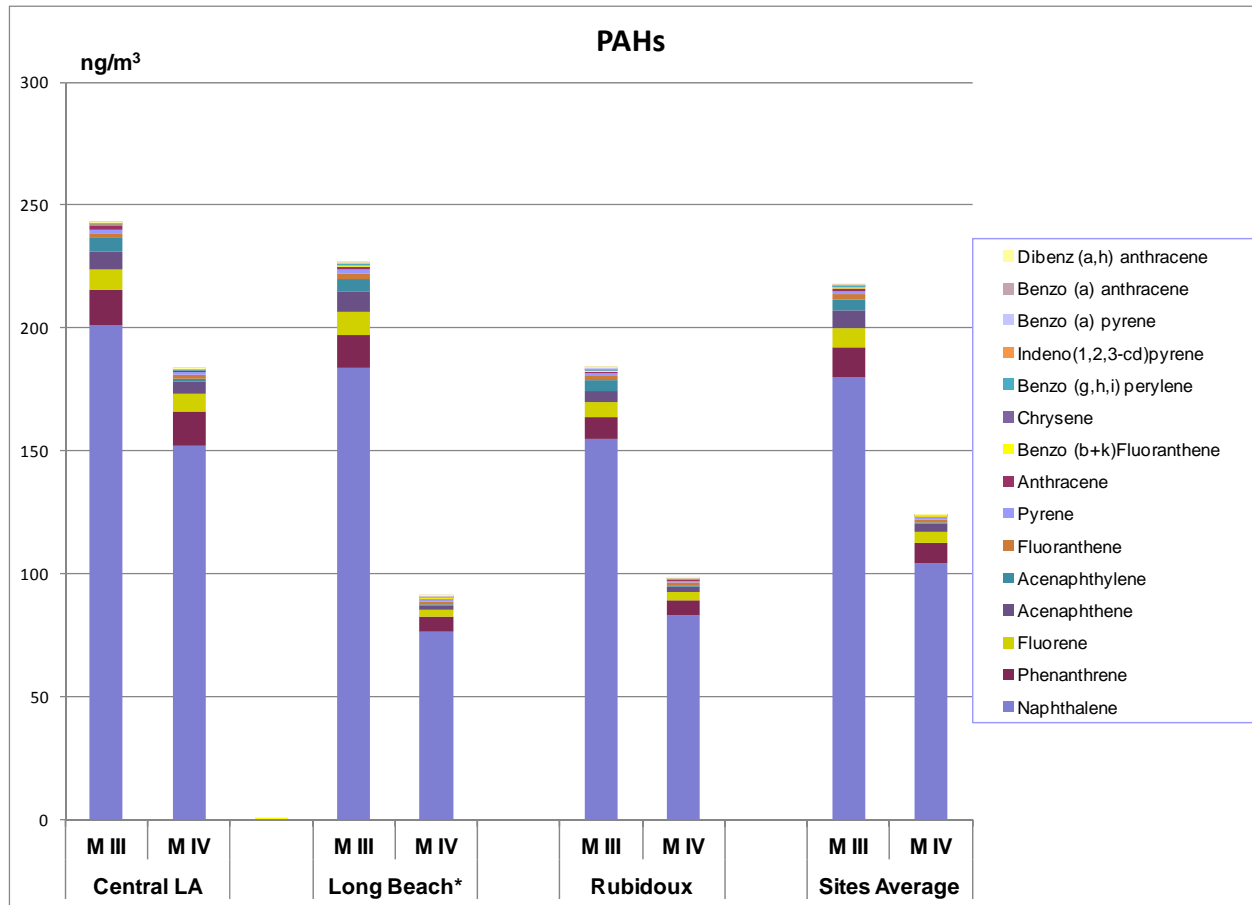


Figure 2-15 Average Concentrations for Diesel PM based on Emissions Ratio Method



* MATES III site was at West Long Beach, and MATES IV site was at North Long Beach

Figure 2-16 Average Concentration of PAHs for MATES III and MATES IV

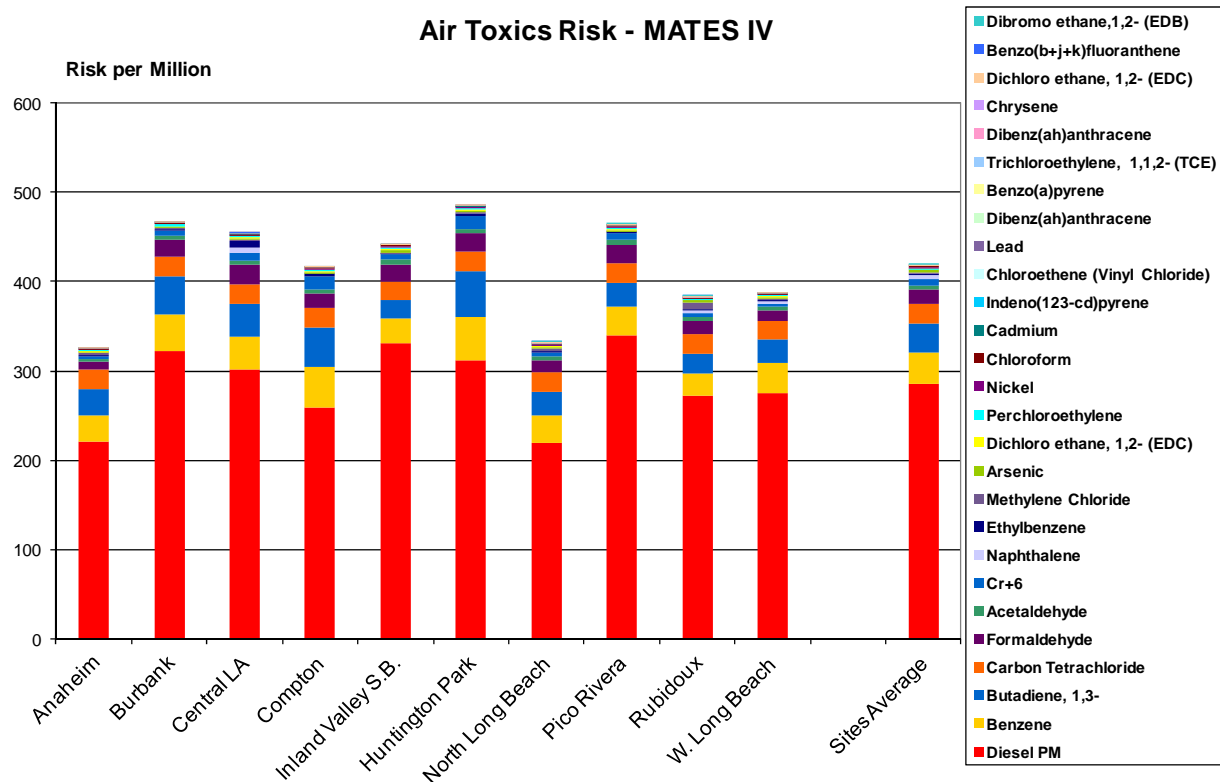


Figure 2-17 Estimated 70-Year Risk from MATES IV Monitoring Data

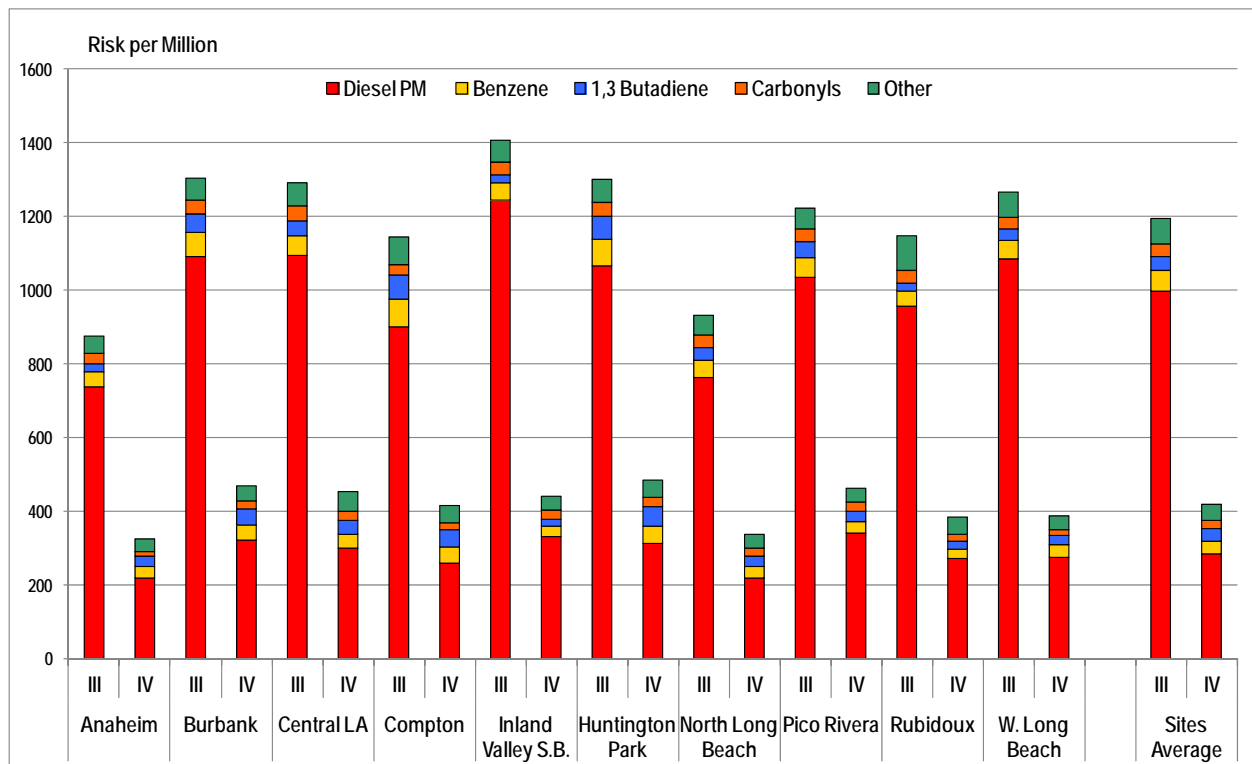


Figure 2-18 Comparison of Estimated 70-Year Risk from MATES III & IV Monitoring Data

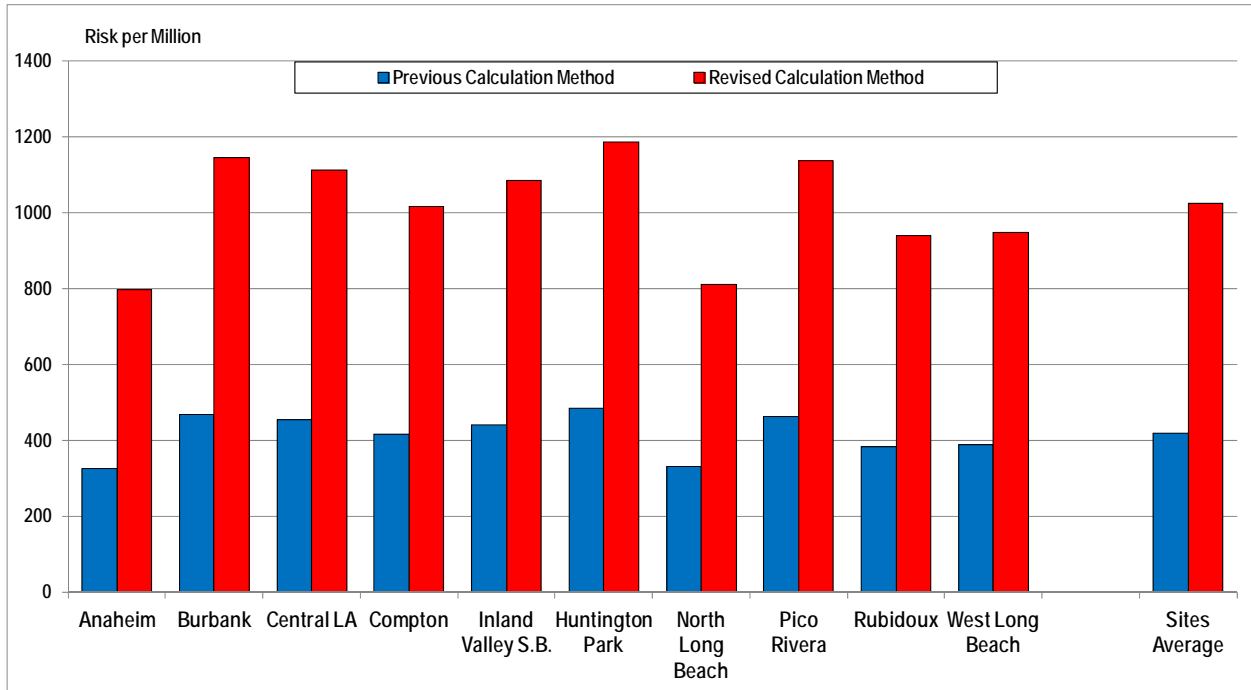


Figure 2-19. Comparison of Previous and Updated OEHHA Risk Calculation Methodologies

CHAPTER 3

DEVELOPMENT OF THE TOXICS EMISSIONS INVENTORY

Chapter 3. Development of the Toxics Emissions Inventory

3.1 Introduction

An emissions inventory of air pollutants and their sources is essential to identify the major contributors of air contaminants and to develop strategies to improve air quality. The information necessary to develop a detailed emissions inventory for the Basin is obtained from SCAQMD data sources as well as other government agencies including California Air Resources Board (CARB), California Department of Transportation (Caltrans), and Southern California Association of Governments (SCAG).

Each of these agencies is responsible for collecting data (e.g., industry growth factors, socio-economic projections, travel activity levels, emission factors, emission speciation profiles, etc.) and developing methodologies (e.g., model and demographic forecast improvements) that are needed to generate a comprehensive emissions inventory. SCAQMD is solely responsible for developing the point source inventory, and the area source inventory is developed jointly by SCAQMD and CARB. CARB is the primary agency responsible for developing the emissions inventory for all mobile sources and provides on-road and off-road inventories from their EMFAC and OFF-ROAD Models, respectively. SCAG is the primary agency for projecting population and economic activity growth in the Basin. Caltrans provides SCAG with highway network, traffic counts, and road capacity data. SCAG incorporates these data into their Travel Demand Model for estimating and projecting vehicle miles traveled (VMT) and speed. CARB's on-road inventory also relies on SCAG's VMT estimates.

3.2 Overview

The toxic emissions inventory for MATES IV consists of four components: (1) point sources; (2) area sources; (3) on-road mobile sources; and (4) off-road (or other) mobile sources. Point source emissions are from facilities having one or more pieces of equipment registered and permitted with the SCAQMD with emissions above certain threshold levels. Area sources represent numerous small sources of emissions that can collectively have significant emissions (e.g., dry cleaners, retail gasoline stations, auto body shops, residential heating, etc.). On-road mobile sources include cars, trucks, buses, and motorcycles. All mobile sources not included in the on-road mobile source inventory are considered as "off-road" mobile sources, which include aircraft, ships, commercial boats, trains, recreational vehicles, construction and industrial equipment, etc.

The 2012 Air Quality Management Plan (AQMP)^[1] is the basis for the toxics emissions inventory developed for MATES IV. The 2012 inventory used for the MATES IV modeling analysis is projected from the 2008 baseline emissions inventory in the 2012 AQMP. A "top-down" approach is used to develop the toxics inventory; that is, toxic emissions are calculated by applying the latest CARB speciation profiles^[2] to the hydrocarbon and particulate matter emissions. Speciation profiles provide estimates of the emission's chemical composition. CARB maintains and updates the chemical composition and size fractions of particulate matter (PM) and the chemical composition and reactive fractions of total organic gases (TOG) for a

variety of emission source categories. The source type (e.g., equipment and fuel) is used to identify the appropriate speciation profile.

A top-down approach is preferable for a regional modeling risk analysis, for the following reasons:

- Speciating the VOC and PM inventory affords consistency with the 2012 AQMP;
- The photochemistry algorithms in the MATES IV modeling system require the complete speciation of the VOC emissions to ensure their correct application;
- The computer programs used to grow and control the VOC and PM emissions into the future for the 2012 AQMP can also be used for projecting the toxic emissions in MATES IV. Thus, the future cancer risk reductions resulting from the 2012 AQMP can be estimated.

3.3 Point Sources

A 2008 point source emissions inventory based on the emissions data reported by the point source facilities in the 2008 Annual Emissions Reporting (AER) Program is the basis for the 2012 inventory used for MATES IV modeling analysis. This program applies to facilities emitting four tons or more of VOC, NO_x, SO_x, or PM or emitting more than 100 tons of CO per year. Facilities subject to the AER Program calculate and report their emissions primarily based on their throughput data (e.g., fuel usage, material usage), appropriate emissions factors or source tests, and control efficiency, if applicable). Under the 2008 AER Program, approximately 1,800 facilities reported their annual emissions to the SCAQMD. Emissions from smaller industrial facilities not subject to the AER Program, which represent a small fraction of the overall stationary source inventory, are included as part of the area source inventory (see Section 3.4).

In order to prepare the point source inventory, emissions data for each facility are categorized based on U.S. EPA's Source Classification Codes (SCCs) for each emission source category. Since the AER collects emissions data on an aggregate basis (i.e., equipment and processes with the same emissions factor are grouped and reported together), facility's equipment permit data are used in conjunction with the reported data to assign the appropriate SCCs and develop the inventory at the SCC level. For modeling purposes, facility location specified in latitude/longitude coordinates is translated into the modeling coordinate system. The business operation activity profile is also recorded so that the annual emissions can be distributed temporally throughout the day, week, and year.

Toxic emissions are calculated by applying the latest CARB speciation profiles^[2] to the hydrocarbon and particulate matter emissions. The SCC is used to identify the appropriate speciation profile for the source. The 2012 emissions used for MATES IV are based on the 2012 AQMP projections using 2008 as the base year.

3.4 Area Sources

The area source emissions developed for the 2012 AQMP, projected from 2008 to the year of interest (2012) are used for MATES IV. SCAQMD and CARB shared the responsibility for

developing the 2008 area source emissions inventory for approximately 350 area source categories. Specifically, SCAQMD developed the area source inventory for about 93 categories, and CARB developed the remaining area source categories (of which 239 categories are associated with consumer products, architectural coatings, and degreasing). For each area source category, a specific methodology is used for estimating emissions. Emissions are spatially allocated to 2 km by 2 km grids using spatial surrogates. Some commonly used spatial surrogates are listed in Table 3-1. As with the point source inventory, toxic emissions are calculated by applying the latest CARB speciation profiles to the hydrocarbon and particulate matter emissions.

3.5 On-Road Mobile Sources

On-road emissions are estimated by combining emission factors with vehicular activity. The 2012 on-road emissions were based on 2012 AQMP projections from the 2008 base year. For the 2012 AQMP, CARB's EMFAC2011 emission factors^[3] were used and link-based traffic volumes and speeds were obtained from the SCAG regional transportation modeling. The Direct Travel Impact Model (DTIM) was used to link emission factors and transportation modeling results and generate hourly gridded emissions of criteria pollutants (i.e., TOG, NO_x, PM, CO, and SO_x). The DTIM emissions are adjusted based on the EMFAC2011 values. Toxic emissions are calculated by applying the latest CARB speciation profiles for mobile sources to the hydrocarbon and particulate matter emissions. A flow chart illustrating this process is provided in Figure 3-1. Some of the key steps in the process are discussed in more detail below.

EMFAC stands for EMISSION FACTOR. In its current form, it is a suite of computer models that estimates the on-road emissions of hydrocarbons (HC), CO, NO_x, PM, lead (Pb), SO₂, and CO₂ for calendar years 1970 to 2040. EMFAC considers 1965 and newer vehicles powered by gasoline, diesel, or electricity and reports for 13 broad vehicle classes as shown in Table 3-2. Over 100 different technology groups are accounted for within each class (e.g., catalyst, non-catalyst, three-way catalyst, carbureted, multiport fuel injection, LEV, TLEV, SULEV, etc.).

EMFAC currently considers the following county-specific information when calculating emissions:

- Ambient air temperature (denoted by T in Figure 3-1);
- Relative humidity (denoted by RH in Figure 3-1);
- Vehicle population;
- Fleet composition;
- Fleet growth rates;
- Mileage accrual rates;
- Vehicle age distribution;
- Distribution of VMT by speed;
- Smog check regulations;
- Fuel properties; and
- Altitude.

Selected on-road activity information for the four counties in the Basin is summarized in Table 3-3. Four of the top seven counties in California in terms of vehicle population, VMT, and trips are in the Basin.

One of the outputs of EMFAC summarizes HC, CO, NO_x, PM, lead, SO₂, and CO₂ emission rates for a given calendar year for each vehicle class and for each county/air basin specified. Processing continues with the DTIM modeling system, which prepares gridded hourly on-road emissions for photochemical grid modeling.

The DTIM processing system consists of three Fortran program modules: CONVIRS4, IRS4, and DTIM4. The main function of CONVIRS4 is to re-format the emission rate file output from EMFAC into a form compatible with IRS4. IRS4 creates fleet average emission rates by ambient air temperature, relative humidity, and vehicle speed.

The DTIM4 module prepares gridded, hourly on-road emissions of HC, CO, NO_x, PM, lead, SO₂, and CO₂ link by link in the transportation network. SCAG's Travel Demand Model provides the following for each link in the transportation network: the number of vehicles, their average speed, and time on the link. Separate files containing hourly gridded temperature (T in Figure 3-1) and relative humidity (RH in Figure 3-1) are provided as input to DTIM4. Knowing the air temperature and relative humidity representative of the link and the average vehicle speed on the link, DTIM4 looks up the fleet average emission rate in the file prepared by IRS4, and multiplies these by the number of vehicles and the average time on the link.

Finally, CARB speciation profiles are used to speciate the on-road HC and PM emissions into its toxic components.

3.6 Off-Road Mobile Sources

The 2008 off-road emissions developed for the 2012 AQMP were projected to 2012 for MATES IV. For the 2012 AQMP, CARB's OFF-ROAD model^[4] was used to estimate emissions for all off-road categories (100+ source categories) except commercial ships, aircraft, locomotive, and recreational vehicles. This model incorporates various aspects of off-road elements, such as the effects of various adopted regulations, technology types, and seasonal conditions on emissions. The model combines population, activity, horsepower, load factors, and emission factors to yield the annual equipment emissions by county, air basin, or state. Spatial and temporal features are incorporated to estimate seasonal emissions. Ship emissions were developed by CARB for the 2012 AQMP. Aircraft emissions for the 2012 AQMP were developed by SCAQMD. Emissions are spatially allocated to 2 km by 2 km grids using spatial surrogates while aircraft emissions are allocated to the airports. Toxic emissions are calculated by applying the latest CARB speciation profiles for off-road mobile sources to the hydrocarbon and particulate matter emissions.

3.7 Summary of Toxic Emissions

Table 3-4 presents the emissions of selected compounds apportioned by the on-road, off-road, point, and area source categories. Chemicals that are considered potential or known human carcinogens are denoted with a check mark. Toxic emissions by major source categories are provided in Appendix VIII.

Species and source apportionment are shown in Table 3-5 and Figure 3-2, respectively. In those

illustrations, the emissions of the carcinogenic pollutants in Table 3-4 are weighted by the ratio of their cancer potency to the cancer potency of diesel particulate matter (DPM). Thus, emissions from species less potent than DPM (e.g, benzene, perchloroethylene, etc.) are weighted less, while emissions from species more potent than DPM (e.g., hexavalent chromium, arsenic, etc.) are weighed more. DPM has a weighting factor of one.

As shown in Table 3-5, DPM emissions account for 80% of the overall cancer risk. The other significant compounds (i.e., contributions >1%) are hexavalent chromium, 1,3-butadiene, benzene, formaldehyde, and arsenic. On-road and off-road mobile sources contribute nearly 92% of the weighted carcinogenic risks and stationary (i.e., point and area) sources contribute about 8% of the risk (Figure 3-2).

Carcinogenic emissions have been continuously decreasing. The 2005 MATES III carcinogenic emissions inventory decreased by 11% from the corresponding 1998 MATES II inventory. A more dramatic 65% emissions decrease was noted from MATES III to MATES IV (2005 to 2012 inventory years), as shown in Figure 3-3. Carcinogenic emissions from area, point, off-road and on-road source categories decreased by 78%, 21%, 74% and 49%, respectively.

3.8 Selected Emissions and Air Quality Changes Since MATES III

Table 3-6 compares emissions and measured air quality changes since MATES III for selected toxics. The air quality change is comparing measured annual average ambient concentrations from 2005 and 2012 from eight sites with complete data. Emissions have decreased, and air quality has improved since MATES III.

Several caveats are appropriate when comparing the changes in inventory emissions and ambient measurements. For example, weather and dispersion of pollutants can influence the relationship between emissions and ambient concentrations. Also, the inventory is a regional estimate of total emissions throughout the Basin, whereas ambient measurements are from the eight fixed monitoring locations where there may be influences from local sources. Another difference is that secondary formation and degradation of substances in the atmosphere are not accounted for in the emissions comparisons, but are captured in the ambient measurements. Nonetheless, comparing emissions estimates with air quality measurements can provide information on whether expected emissions changes are reflected in actual ambient measurements, can be used to help calibrate emissions estimates, and may suggest where emissions inventory methods can be improved.

3.9 References

1. A copy of the 2012 AQMP can be viewed or downloaded at the following SCAQMD link: <http://www.aqmd.gov/home/library/clean-air-plans/air-quality-mgt-plan/final-2012-air-quality-management-plan>
2. CARB speciation profiles can be viewed or downloaded from the following CARB link: <http://www.arb.ca.gov/ei/speciate/speciate.htm>.
3. EMFAC2011 model and its documentation can be obtained at the following CARB link: <http://www.arb.ca.gov/msei/modeling.htm>.

4. The OFF-ROAD Model and its documentation can be obtained at the following CARB link:
<http://www.arb.ca.gov/msei/offroad/offroad.htm>.

Table 3-1. Commonly Used Spatial Surrogates.

Population	Total employment
VMT	Industrial employment
Length of rail per grid cell	Retail employment
Locations of unpaved rural roads	Single dwelling units
Total housing	Rural land cover – forest
Agricultural land cover	Rural land cover – range land
National forest > 5000 ft	

Source: <http://eos.arb.ca.gov/eos/projects/surrogates/>

Table 3-2. Broad Vehicle Classes Considered by EMFAC.

Vehicle Class	Weight (lbs)	Vehicle Class	Weight (lbs)
Passenger cars	All	Heavy-Heavy-Duty Truck	33,001 – 60,000
Light Truck I	0 – 3,750	Motorcycle	All
Light Truck II	3,751 – 5,750	Urban Diesel Bus	All
Medium-Duty Truck	5,751 – 8,500	School Bus	All
Light-Heavy-Duty Truck I	8,501 – 10,000	Other bus	All
Light-Heavy-Duty Truck II	10,001 – 14,000	Motor Homes	All
Medium-Heavy-Duty Truck	14,001 – 33,000		

Source: Adopted from the User’s Guide for EMFAC2011.

Table 3-3. Vehicle Activity Information for the Counties in the Basin.

County	Vehicle Population	VMT/day	Trips/day	Miles per Vehicle-Day
Los Angeles	6,278,704	217,899,000	40,271,355	34.71
Orange	2,157,423	75,785,000	13,906,711	35.21
Riverside	1,342,704	45,651,000	8,704,550	34.00
San Bernardino	988,717	38,912,000	6,372,705	39.36

Source: EMFAC2011 and SCAG 2012 RTP

Table 3-4. 2012 Annual Average Day Toxic Emissions for the South Coast Air Basin.

Pollutant	Emissions (lbs/day)				
	On-road	Off-road	Point	Area	Total
√ Acetaldehyde*	2066.9	3083.1	108.1	1378.7	6636.9
Acetone**	1796.1	2342.3	379.8	20569.3	25087.4
√ Benzene	5336.3	4477.1	711.8	1506.5	12031.7
√ 1,3-Butadiene	1002.5	1028.7	435.2	107.2	2573.6
√ Carbon tetrachloride	0.0	0.0	6.6	0.1	6.7
√ Chloroform	0.0	0.0	12.7	0.8	13.5
√ 1,1 Dichloroethane	0.0	0.0	0.3	65.3	65.5
√ 1,4 Dioxane	0.0	0.0	0.1	0.0	0.1
√ Ethylene dibromide	0.0	0.0	0.1	0.0	0.1
√ Ethylene dichloride	0.0	0.0	53.8	11.4	65.2
√ Ethylene oxide	0.0	0.0	4.9	0.0	4.9
√ Formaldehyde*	5159.8	7530.0	1678.2	4517.8	18885.8
Methyl ethyl ketone*	335.1	423.2	870.8	5425.6	7054.7
√ Methylene chloride	0.0	0.0	26.2	9874.3	9900.5
√ MTBE	0.0	1.1	0.1	0.0	1.2
√ Naphthalene	264.0	194.8	16.7	220.4	695.9
√ p-Dichlorobenzene	0.0	0.0	70.3	2945.1	3015.5
√ Perchloroethylene	0.0	0.0	805.0	5865.4	6670.4
√ Propylene oxide	0.0	0.0	0.5	0.2	0.7
Styrene	271.2	174.2	1222.3	12.5	1680.1
Toluene	15823.6	9233.1	4956.1	24497.6	54510.4
√ Trichloroethylene	0.0	0.0	735.3	886.1	1621.5
√ Vinyl chloride	0.0	0.0	37.9	128.6	166.5
√ Arsenic	0.4	0.0	18.6	5.3	24.3
√ Cadmium	0.3	0.3	5.0	3.0	8.6
Chromium	44.0	3.7	34.5	24.8	107.0
√ Diesel particulate	10798.7	9180.9	411.8	80.6	20472.0
Elemental carbon***	8873.4	6211.5	3286.8	11107.6	29479.3
√ Hexavalent chromium	2.2	0.5	0.4	0.0	3.1
√ Lead	4.8	8.7	30.9	73.1	117.5
√ Nickel	24.6	9.2	44.1	16.5	94.4
Organic carbon	11675.2	7865.6	197.3	45202.9	64940.9
Selenium	0.9	0.1	23.9	2.7	27.5
Silicon**	2473.0	140.4	2498.8	87588.5	92700.7

√ Denotes potential or known human carcinogen.

* Primarily emitted emissions. These materials are also formed in the atmosphere as a result of photochemical reactions.

** Acetone and silicon are not toxic compounds. Their emissions are included here because they were measured in the sampling program.

*** Includes elemental carbon from all sources (including diesel particulate).

Table 3-5. Cancer Potency Weighted Species Apportionment for 2012 Emissions.

Toxic	Contribution (%)	Toxic	Contribution (%)
Diesel particulate	79.61	Methylene chloride	0.12
Hexavalent chromium	5.66	Trichloroethylene	0.04
1,3-butadiene	5.46	Lead	0.02
Benzene	4.25	Ethylene dichloride	0.02
Formaldehyde	1.40	Ethylene oxide	<0.01
Arsenic	1.03	Carbon tetrachloride	<0.01
Perchloroethylene	0.50	1,1-Dichloroethane	<0.01
Cadmium	0.46	Chloroform	<0.001
p-dichlorobenzene	0.43	Ethylene dibromide	<0.0001
Nickel	0.30	Propylene oxide	<0.0001
Naphthalene	0.30	1,3-Dioxane	<0.00001
Acetaldehyde	0.23	MTBE	<0.00001
Vinyl chloride	0.16		

Table 3-6. Selected Emissions and Air Quality Changes Since MATES III.

Toxic Gases	Change in Emissions	Change in Air Quality	Toxic Particulates	Change in Emissions	Change in Air Quality
Acetaldehyde	-53%	-56%	Arsenic	-43%	-35%
Benzene	-47%	-38%	Cadmium	-39%	-91%
1,3-butadiene	-50%	-18%	Elemental carbon	-24%	-35%
Formaldehyde	-46%	-49%	EC (PM _{2.5})	-19%	-47%
Methylene chloride*	-29%	+44%	Hex. chromium**	+11%	-78%
Perchloroethylene	-37%	-50%	Lead	-42%	-56%
Trichloroethylene	+33%	-33%	Nickel	+6%	-45%

* Measured concentrations at the Rubidoux site increased significantly since 2009.

** High measured concentrations in MATES III due to nearby sources influencing the Rubidoux site. The emissions from these sources have since been controlled.

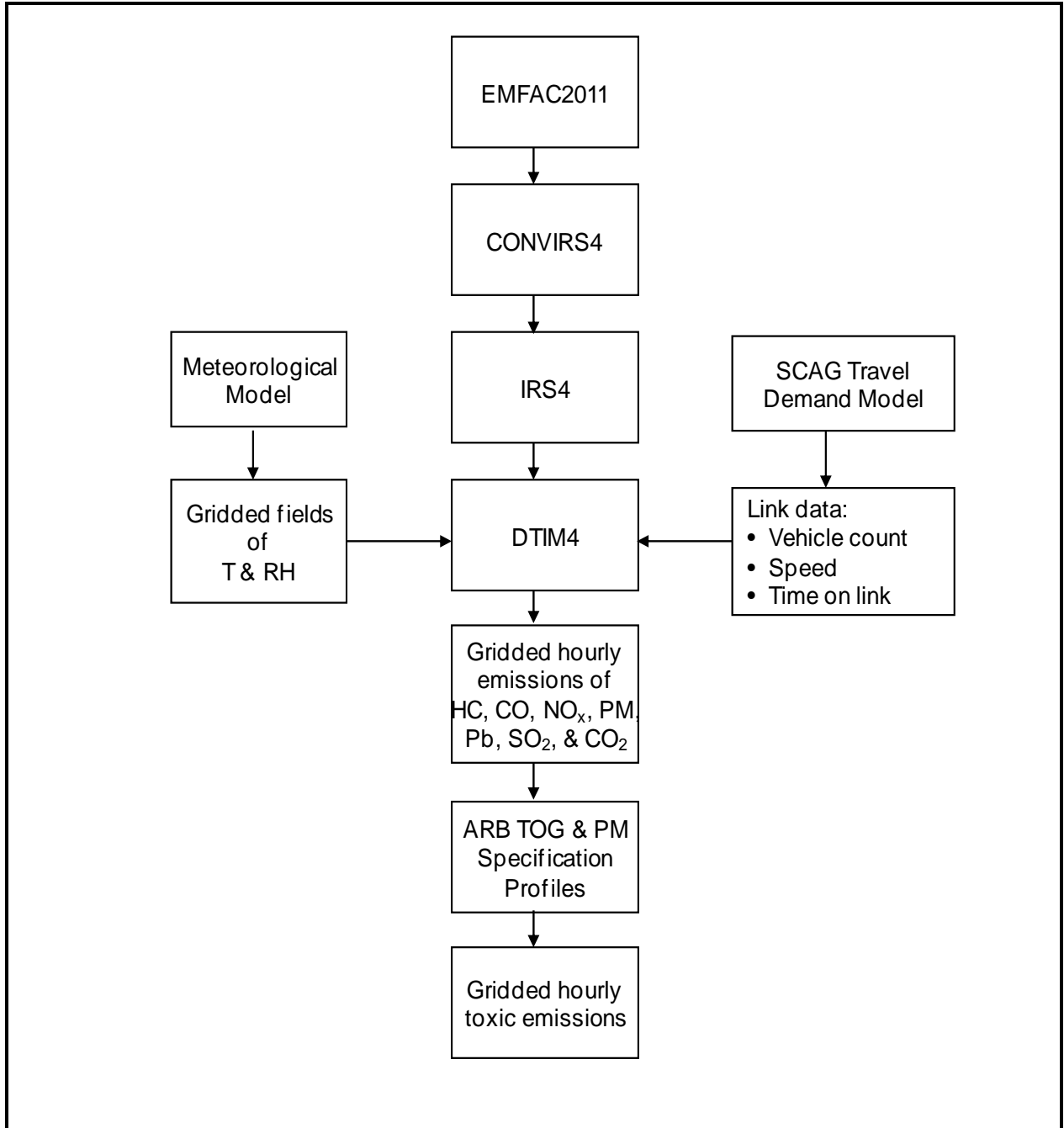


Figure 3-1. Flow Diagram for On-Road Emissions Processing.

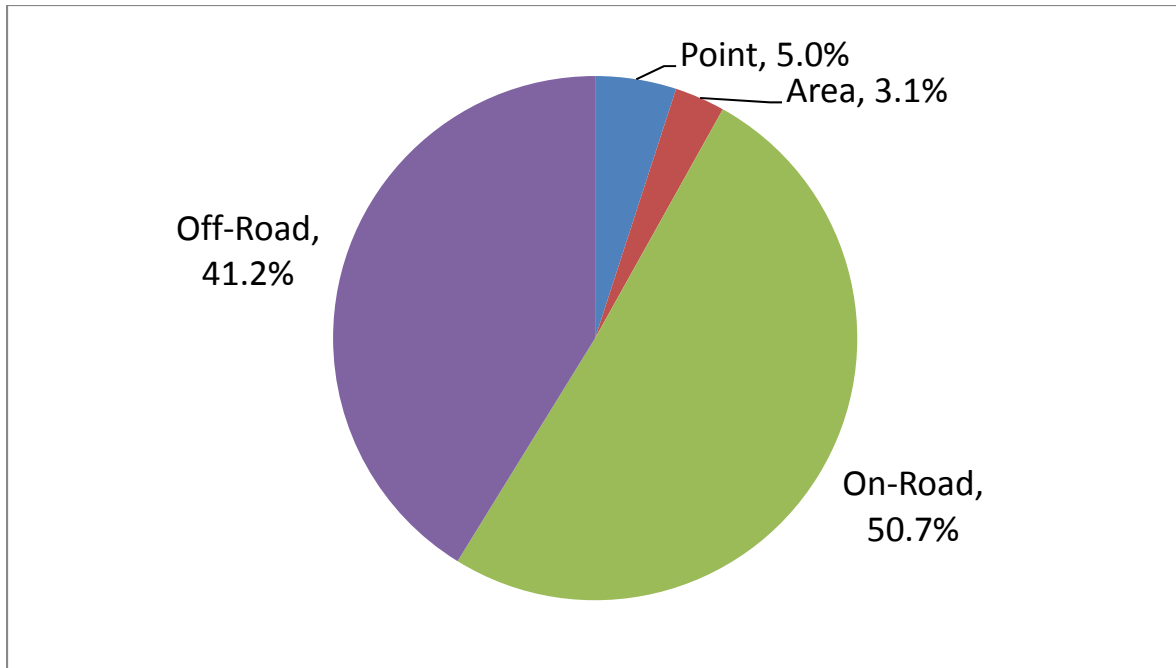


Figure 3-2. Cancer Potency Weighted Source Apportionment for 2012 Emissions.

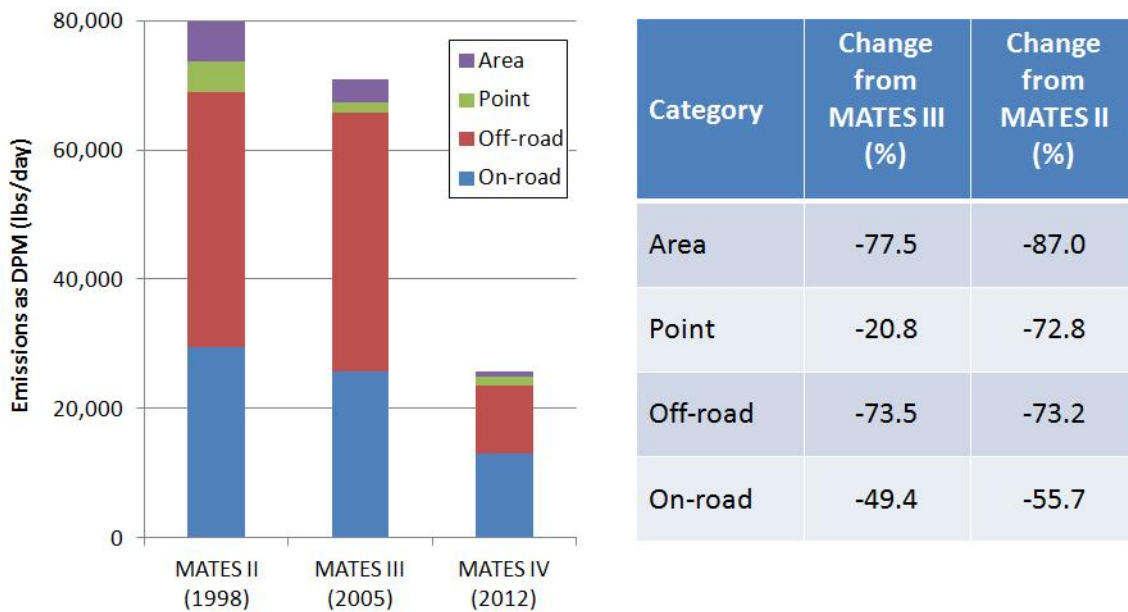


Figure 3-3. Cancer Potency Weighted Emission Comparison of MATES II, MATES III and MATES IV.

CHAPTER 4

REGIONAL MODELING AND EVALUATION

Chapter 4. Regional Modeling and Evaluation

4.1 Background

Regional air quality modeling is used to estimate community exposure to air toxics as a function of both time and geography due to known toxic emissions sources. The model simulated concentrations of toxic compounds are translated into a spatial pattern of health risk based upon compound potency risk factors. The regional modeling provides a mechanism to predict the dispersion of emissions from a variety of source categories as well as individual sources to estimate risk throughout the modeling area. This analysis complements and is compared to the techniques used to assess concentration and risk from the data acquired at the fixed monitoring sites.

Since MATES II, the SCAQMD has used regional air quality models in air toxic risk analyses. In the MATES II analysis, the Urban Airshed Model with TOX (UAMTOX) chemistry was used to simulate the transport and accumulation of toxic compounds throughout the Basin. UAMTOX was simulated for a protracted 2 km by 2 km grid domain that overlaid the Basin.

Subsequent to MATES II, the SCAQMD transitioned to more technologically advanced tools that utilize updated chemistry modules, improved dispersion algorithms, and mass consistent meteorological data. In the 2007 AQMP and the subsequent MATES III analysis, the dispersion platform moved from UAM to CAMx and the diagnostic wind meteorological model was replaced by the Mesoscale Model version 5 (MM5, Grell et al 1994) prognostic model. CAMx, coupled with the MM5 input, using the “one atmosphere” gaseous and particulate chemistry, was used to simulate both episodic ozone and annual concentrations of PM_{2.5} and air toxic pollutants. The modeling was performed based on the UTM coordinate systems.

In the 2012 AQMP, the SCAQMD transitioned from MM5 to a new mesoscale meteorological model, Weather Research Forecast (WRF; Skamarock 2008) and adopted a statewide Lambert Conformal coordinate system. Both CAMx and Community Multiscale Air Quality (CMAQ) models were used for air quality simulations. Within the South Coast Air Basin (SCAB), both models performed similarly. For MATES IV, the CAMx RTRAC with WRF was used to model air toxic concentrations of both particulate matter and gaseous species.

MATES IV Modeling was conducted over a domain that encompassed the Basin and the coastal shipping lanes located in the Southern California Bight portions of the Basin using a grid size of 2 km by 2 km. Compared to MATES III, the domain extends further eastward to include the Coachella Valley. Figure 4-1 depicts the MATES IV modeling domain. The unshaded portion of the grid area represents the extension of the domain beyond that used for MATES III. A projected emissions inventory for 2012 based on the 2012 AQMP emissions inventory for 2008, which included detailed source profiles of air toxic sources, provided the mobile and stationary source input for the MATES IV CAMx RTRAC simulations. Although the actual measurements and modeling for MATES IV spanned July 1, 2012, through June 30, 2013, for simplicity the MATES IV modeling used the 2012 emissions inventory.

Grid-based, hourly meteorological fields generated from WRF provided the wind patterns and atmospheric parameters for the simulations.

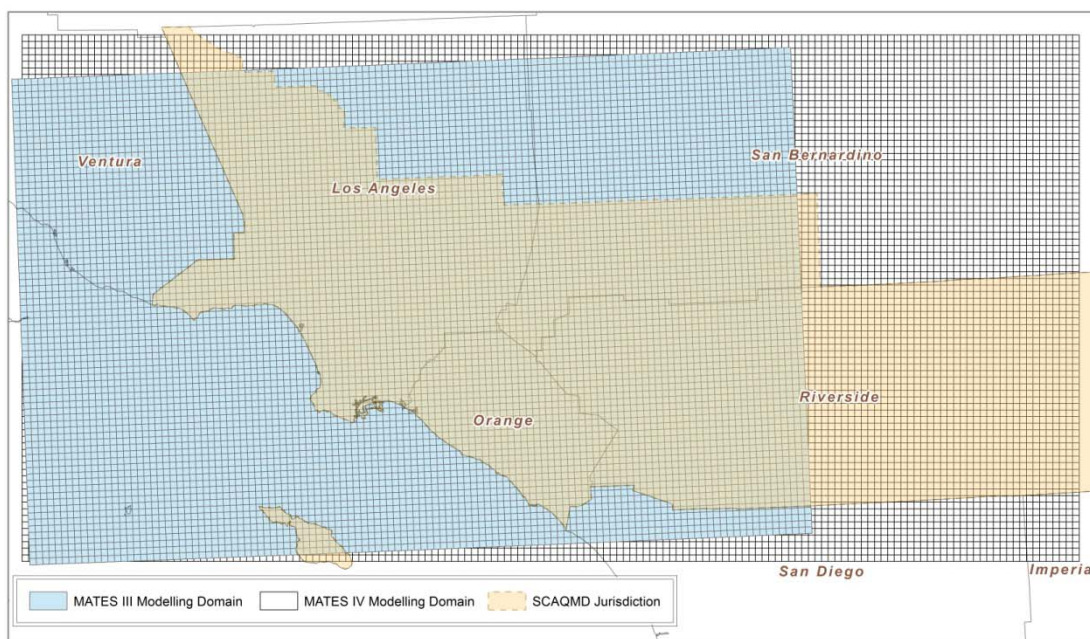


Figure 4-1.

MATES IV Modeling Domain. Shaded area highlights the grid extension to the Mates III modeling domain.

4.2 MATES III vs. MATES IV: Key Modeling Assumptions

The MATES IV regional modeling analyses relied on the CAMx RTRAC model to simulate annual impacts of both gaseous and aerosol toxic compounds in the Basin. In the 2000 MATES II analysis, the Urban Airshed Model with TOX (UAMTOX) chemistry was used to simulate the advection and accumulation of toxic compound emissions throughout the Basin. UAMTOX was simulated for a 2 km by 2 km grid domain that overlaid the Basin. The analysis relied on the 1997-1998 emissions projection from the 1997 AQMP, and meteorological data fields for 1997-1998 were generated by objective analysis using a diagnostic wind model. These tools were consistent with those used in both the 1997 and 2003 AQMP attainment demonstrations.

MATES III employed CAMx RTRAC, which is identical to the modeling tool used in the current study. The meteorological data was generated using Mesoscale Meteorological model 5 (MM5), which was considered state-of-the-art at the time; however, MM5 was subsequently replaced by WRF as the most advanced and commonly used meteorological model.

The transition to CAMx and MM5 was made based on suggestions from peer review for the 2003 AQMP modeling efforts. A concern arising from the peer review was the need for better

state-of-the-science tools that utilize updated chemistry modules, improved dispersion algorithms, and mass consistent meteorological data. The recommendations were implemented for the 2007 AQMP where the dispersion platform moved from UAM to CAMx and the diagnostic wind meteorological model was replaced by the MM5 prognostic model. CAMx, coupled with MM5 input using the “one atmosphere” gaseous and particulate chemistry was used to simulate both episodic ozone and annual concentrations of PM_{2.5}.

MM5 simulated April 1998 through March 1999 and all days in 2005, which provided the dispersion profile for the CAMx simulations. As for emissions, an updated version of the 2007 AQMP inventory for model year 2005 was used. This included detailed source profiles of air toxics and mobile and stationary sources for CAMx RTRAC simulations. An additional back-cast of the 2007 AQMP emissions inventory was generated for 1998 to re-simulate the MATES II in a framework identical to the MATES III, which enabled a direct comparison of risk assessments of the two previous MATES studies.

The CAMx-MM5 modeling platform from MATES III was updated to the CAMx-WRF coupled system in MATES IV. The WRF, state-of-the-science meteorological modeling tool offers a variety of user options to cover atmospheric boundary layer parameterizations, turbulent diffusion, cumulus parameterizations, land surface-atmosphere interactions, etc., which can be customized to model specific geographical and climatological situations. The SCAQMD performed extensive sensitivity tests and further development to improve the WRF performance for the South Coast Basin, in which geographical and climatological characteristics impose great challenges in predicting the complex meteorological structures associated with air quality episodes. CAMx with RTRAC algorithms was employed as a chemical transport platform, given the importance of tracking chemically active toxic elements individually to assess the contribution of each source category. The RTRAC algorithm provides a flexible approach for tracking the emissions, dispersion, chemistry, and deposition of multiple gases and particles that are not otherwise included in the model’s chemistry mechanisms.

Table 4-1 summarizes the major differences in the air toxics modeling between the MATES IV and MATES III analyses.

Table 4-1
Summary Comparison of Key Modeling Considerations Between
MATES IV and MATES III

Parameter	MATES IV	MATES III
Meteorological Modeling Year	July 2012 - June 2013	2005
Model Platform / Chemistry	CAMx RTRAC (5.30)	CAMx RTRAC (4.40)
Meteorology Model /Vertical Layers	WRF with 30 layers/ CAMx: 16 layers	MM5 with 29 layers/ CAMx: 8 layers
On-Road Truck Emissions	Caltrans/SCAG Truck Model	Caltrans/SCAG Truck Model

Shipping Emissions Stack Height	Emissions spread through layers 1 and 2	Emissions spread through layers 1 and 2
Emissions Inventory	2012 Projection from 2008 (2012 AQMP)	2005 Projection from 2002 (2007 AQMP)
Mobile Emissions	EMFAC2011	EMFAC2007

4.3 Modeling Results

CAMx RTRAC regional modeling was conducted using WRF meteorological data and projected emissions data for 2012 to simulate annual average concentrations of 19 key compounds measured as part of the MATES IV monitoring program from July 1, 2012, to June 30, 2013. Simulated annual average concentration plots for the four toxic compounds that contributed the greatest risk throughout the domain (diesel particulate, benzene, 1,3-butadiene and formaldehyde) are depicted in Figures 4-2 through 4-5.

Figure 4-2 depicts the projected annual average concentration distribution of PM_{2.5} diesel particulates in the Basin. The highest concentration (2.9 µg/m³) was simulated to occur around the Ports of Los Angeles and Long Beach. In general, the distribution of diesel particulates is aligned with the transportation corridors including freeways, major arterials and rail right-of-ways. The peak diesel concentration is much lower than the previous MATES studies, due, in a large part, to emission reductions from ocean-going vessels at near coastal waters and at ports. Figures 4-3 and 4-4 provide the distributions of benzene and 1,3-butadiene respectively whereby the toxic compounds are almost uniformly distributed throughout the Basin, reflecting patterns of light-duty fuel consumption. As expected, the higher benzene concentrations appear in an area where refineries are located. However, benzene concentrations there are not significantly elevated relative to other areas. The modeled peak concentration of 0.5 ppb is comparable with measured values of 0.53 ppb at Huntington Park and 0.4 ppb at Los Angeles.

The ambient concentrations of formaldehyde in the SCAB are due to direct emissions, primarily from combustion sources, and secondary formation from anthropogenic and biogenic VOCs. The formaldehyde concentrations shown in Figure 4-5 depict a spatial distribution indicative of its sources, with measurable concentrations in the heavily-traveled western and central Basin, with additional elevated levels in the downwind areas of the Basin that are impacted by higher levels of photochemistry and ozone formation. Due to continued reduction of primary combustion source emissions, the formaldehyde concentrations are dominated by secondary formation. The peak formaldehyde concentrations are now in the areas with high biogenic emissions.

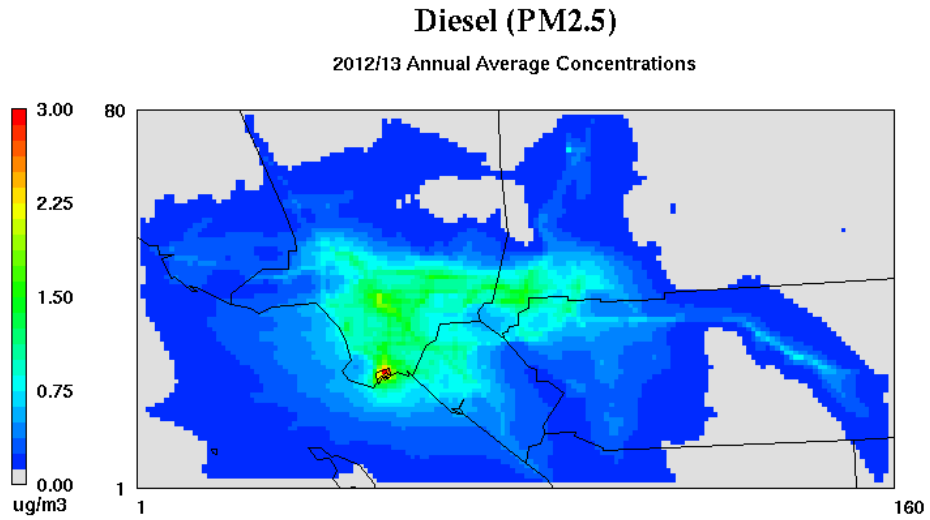


Figure 4-2
Annual Average Concentration Pattern for Diesel PM_{2.5}

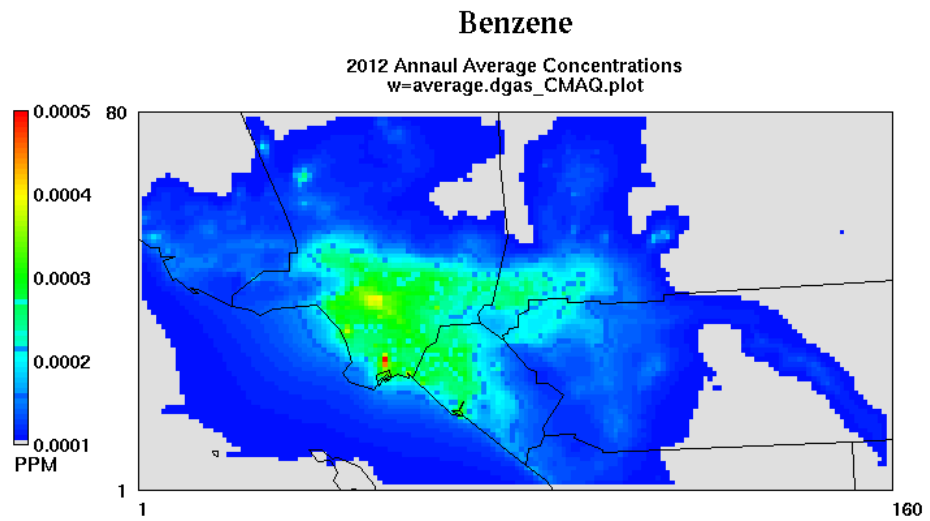


Figure 4-3
Annual Average Concentration Pattern for Benzene

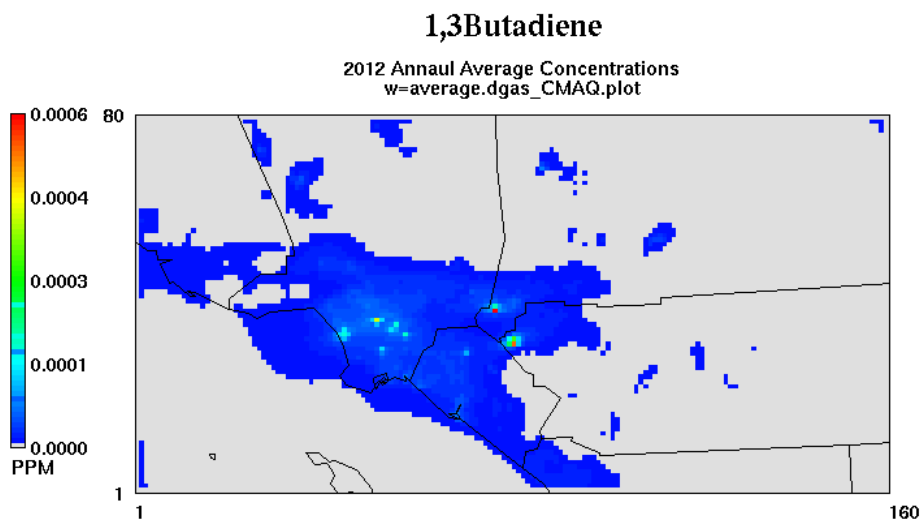


Figure 4-4
Annual Average Concentration Pattern for 1,3-Butadiene

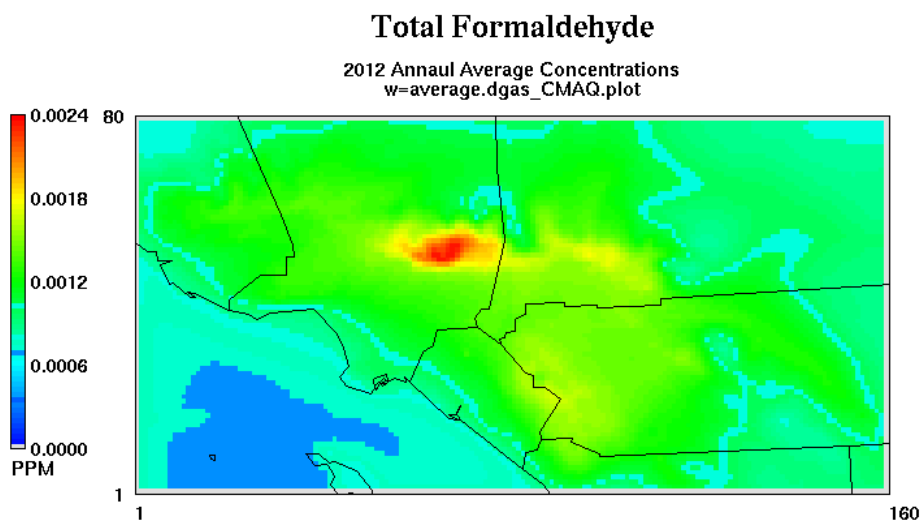


Figure 4-5
Annual Average Concentration Pattern for Total Formaldehyde

Table 4-2 provides a summary of the model performance relative to actual measured annual average concentrations. For this comparison, the monitored data for the 10 stations are combined to provide an estimate of average Basin-wide conditions for the 2012-2013 sampling period. CAMx RTRAC simulated concentrations at the monitoring sites were derived using the inverse distance-squared weighted surrounding nine-cell average. Since direct measurements of $PM_{2.5}$ diesel are not possible, no direct comparisons can be made with simulated annual average concentrations. However, if the factor of 0.82 derived from the emissions inventory is used (See Chapter 2), the estimated 10-site average diesel $PM_{2.5}$ concentration would be $0.96 \mu\text{g}/\text{m}^3$ compared to the modeled average concentration of $1.23 \mu\text{g}/\text{m}^3$. Naphthalene was measured only

at Long Beach, Central Los Angeles, and Rubidoux. For the rest of the species, each of the four counties within the SCAQMD is represented by at least one station.

Table 4-2
Measured and Simulated Annual Average Concentrations During 2012-2013 MATES IV

Compound	Units	2012-2013 MATES IV	
		Measured Annual Average	Simulated Annual Average
EC _{2.5}	µg/m ³	1.17	1.41
EC ₁₀	µg/m ³	1.58	1.70
Cr 6 (TSP)	ng/m ³	0.05	0.19
As (TSP)	ng/m ³	0.56	1.61
Cd (TSP)	ng/m ³	0.16	0.55
Ni (TSP)	ng/m ³	3.76	6.30
Pb (TSP)	ng/m ³	6.23	5.41
Benzene	ppb	0.38	0.29
Perchloroethylene	ppb	0.03	0.08
p-Dichlorobenzene	ppb	0.02	0.05
Methylene Chloride	ppb	0.42	0.25
Trichloroethylene	ppb	0.02	0.04
1,3-Butadiene	ppb	0.11	0.05
Formaldehyde	ppb	2.25	1.90
Acetaldehyde	ppb	0.90	0.96
Naphthalene	ppb	0.02*	0.01

* Three station average

For 2012-2013, the model simulated concentrations of particulate matter species, such as EC_{2.5}, EC₁₀, and TSP metals were biased high. The model performed better for gaseous species. Concentrations of perchloroethylene, p-dichloroebenzene, trichloroethylene have become so low such that the typical ambient concentrations are often below the detection limits of the measurements. Thus, model performances for those species are difficult to ascertain. Note that given their low concentrations, their respective contributions to the overall toxic cancer risk are less than one percent. For 1,3-butadiene, due to its highly reactive nature, large uncertainties exist in speciation profiles, measurements and decay parameters used in the modeling ; thus, good model performance for 1,3-butadiene is not typically expected. Information on speciation profiles for naphthalene is very limited. Both MATES III and MATES IV showed very low ambient concentrations of naphthalene and, hence, very low cancer risk contributions. Benzene, formaldehyde, and acetaldehyde showed good agreement between model simulations and measurements. Modeled and observed concentrations of methylene chloride compared very

well except for the Rubidoux site. This site experienced a dramatic increase in the average monitored methylene chloride concentrations since 2009, primarily due to a handful of days exhibiting elevated levels. Prior to 2009, the annual average concentration of methylene chloride had been in the range of 0.2-0.3 ppb. From 2009 onward, the measured annual average concentrations have been in the range of 1.4-2.4 ppb. The sources of this increase have not yet been determined and are being investigated. Based on experience and past MATES studies, it is likely a source or sources nearby the monitoring location. However, even at these elevated levels, methylene chloride has a negligible contribution to the overall air toxics cancer risk (~2 in a million).

Simulated annual average concentrations of $EC_{2.5}$ and EC_{10} were used to assess the overall model performance for the 2012-2013 MATES IV period. Tables 4-3a and 4-3b summarize the 2012-2013 MATES IV $EC_{2.5}$ and EC_{10} model performance, respectively.

EPA guidance (U.S. EPA, 2006) recommends evaluating particulate modeling performance using measures of prediction bias and error. Prediction Accuracy (PA), measured as the percentage difference between the mean annual observed and simulated $EC_{2.5}$ concentrations is another tool used in the performance evaluation. PA goals of $\pm 20\%$ for ozone and $\pm 30\%$ for individual components of $PM_{2.5}$ or PM_{10} have been used to assess simulation performance in previous modeling attainment demonstrations. In general, PM_{10} showed better agreement than $PM_{2.5}$. PA indicated that PM_{10} prediction meets the EPA performance criteria at nine out of 10 stations, while $PM_{2.5}$ meets only at five stations. Still, PM_{10} as well as $PM_{2.5}$ showed high bias in Long Beach.

Similar to the prior studies, including MATES III and 2012 AQMP, the CAMx model shows a tendency of high bias near the coastal area and low bias in the inland area. The areas showing the high bias (i.e. model overprediction) are Long Beach, Compton and Los Angeles; and the areas with underpredictions are Burbank and Rubidoux. A detailed discussion of the model performance is presented in Appendix IX).

Table 4-3a
MATES IV 2012-2013 EC_{2.5} Model Performance

Location	Observed (µg/m ³)	*Modeled (µg/m ³)	Prediction Accuracy	Mean Bias (µg/m ³)	Mean Error (µg/m ³)	Normalized Mean Bias	Normalized Mean Error
Anaheim	0.90	1.10	22	0.20	0.56	1.08	1.24
Burbank	1.32	1.19	-9	-0.12	0.64	0.43	0.73
Compton	1.06	1.48	39	0.42	0.76	1.52	1.64
Inland Valley San Bernardino	1.38	1.13	-18	-0.25	0.46	-0.03	0.31
Huntington Park	1.30	1.70	31	0.40	0.67	0.85	0.93
Long Beach	0.91	1.45	59	0.53	0.80	2.18	2.27
Central L.A.	1.23	1.81	47	0.58	0.70	0.91	0.96
Pico Rivera	1.39	1.30	-6	-0.09	0.48	0.26	0.52
Rubidoux	1.11	0.98	-12	-0.13	0.40	0.12	0.44
West Long Beach	1.13	1.88	67	0.75	1.00	2.10	2.17
All Stations	1.17	1.40	20	0.23	0.65	0.95	1.13

* Included only sampling days

Table 4-3b
MATES IV 2012-2013 EC₁₀ Model Performance

Location	Observed (µg/m ³)	*Modeled (µg/m ³)	Prediction Accuracy	Mean Bias (µg/m ³)	Mean Error (µg/m ³)	Normalized Mean Bias	Normalized Mean Error
Anaheim	1.17	1.39	18	0.22	0.49	0.44	0.54
Burbank	1.74	1.43	-18	-0.31	0.60	-0.03	0.34
Compton	1.50	1.81	21	0.32	0.66	0.58	0.68
Inland Valley San Bernardino	1.74	1.42	-18	-0.32	0.47	-0.08	0.27
Huntington Park	1.65	1.98	20	0.33	0.54	0.36	0.43
Long Beach	1.29	1.72	34	0.44	0.59	0.61	0.68
Central L.A.	1.67	2.17	30	0.50	0.61	0.46	0.51
Pico Rivera	1.87	1.69	-10	-0.18	0.44	-0.02	0.24
Rubidoux	1.48	1.26	-14	-0.22	0.44	-0.06	0.29
West Long Beach	1.78	2.15	21	0.37	0.86	0.53	0.69
All Stations	1.58	1.69	7	0.11	0.57	0.28	0.47

* Included sampling days only

4.4 Estimation of Cancer Risk

Figure 4-6 depicts the 2012-2013 MATES IV distribution of risk estimated from the predicted annual average concentrations of the key toxic compounds. Risk is calculated for each grid cell as follows:

$$\text{Risk}_{i,j} = \sum \text{Concentration}_{i,j,k} \times \text{Risk Factor}_{i,j,k}$$

Where i,j is the grid cell (easting, northing) and k is the toxic compound.

The grid cell having the maximum simulated cancer risk of 1,057 in a million was located in the Ports of Los Angeles and Long Beach. In addition to the cluster of cells around the port area with high risk, a second cluster of high-risk area is centered around a railyard southeast of downtown Los Angeles. In general, as in the past studies, the higher-risk areas tend to be along transportation corridors.

Figure 4-7 provides the CAMx RTRAC simulated air toxics risk for the 2005 MATES III period, and Figure 4-8 depicts the changes in risk from 2005 to 2012-2013. The greatest decrease in risk occurred in the port area, reflecting the emission reductions from shipping and port operations. Overall, air toxics risk improved significantly, consistent with air toxic emissions reductions that occurred over the period.

The 2012-2013 Basin average population-weighted risk summed for all the toxic components yielded a cancer risk of 367 in a million. The average risk included all populated land cells that reside within the Basin portion of the modeling domain. The MATES III Basin average risk was 853 per million. Thus, between the MATES III and MATES IV periods, the simulated risk decreased by 57%. The 57% reduction in Basin risk can be attributed to several factors, most notably, changes in diesel emissions between 2005 and 2012. While weather profiles between the two monitoring periods varied, no appreciable difference was observed in the meteorological dispersion potential.

Regional risk from nondiesel sources (Figure 4-9) is also uniformly distributed throughout the Basin with values typically around 100 in one million, with only a few selected cells showing values in excess of 200.

Figure 4-10 provides a close-up plot of risk in the Ports area. Table 4-4 provides a summary risk estimated for the Basin, for the Ports area, and for the Basin excluding the Ports area. For this assessment, the Ports area includes the populated cells roughly bounded by the Interstate 405 to the north, San Pedro to the west, Balboa Harbor to the east, and Pt. Fermin to the south. The 2012-2013 average population-weighted air toxics risk in the Ports area (as defined above) was 480 in one million. The Basin average population-weighted air toxics risk, excluding the grid cells in the Ports area, was 359 in one million. It is important to note that the downwind impacts resulting from Port area activities are still reflected in the toxics risk estimates for the grid cells categorized as "Basin minus Ports." Similarly, the MATES III simulations for 2005 indicated

that the Ports area air toxics risk was 1,415 in one million; and the Basin, minus the Ports area, was 816 in one million. Overall, the Ports area experienced an approximate 66% decrease in risk, while the average population-weighted risk in other areas of the Basin decreased by about 56%.

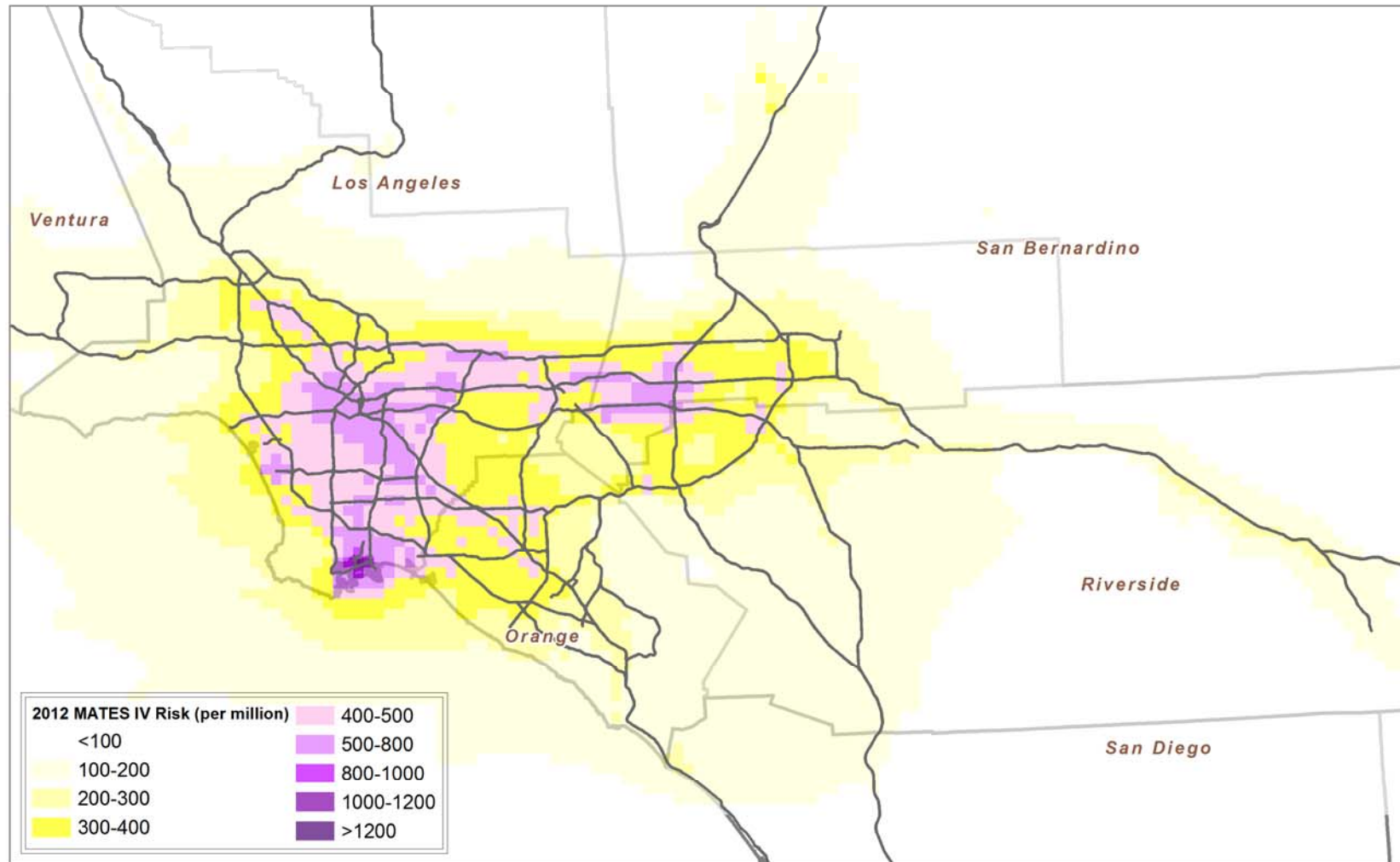


Figure 4-6
2012-2013 MATES IV CAMx RTRAC Simulated Air Toxic Cancer Risk

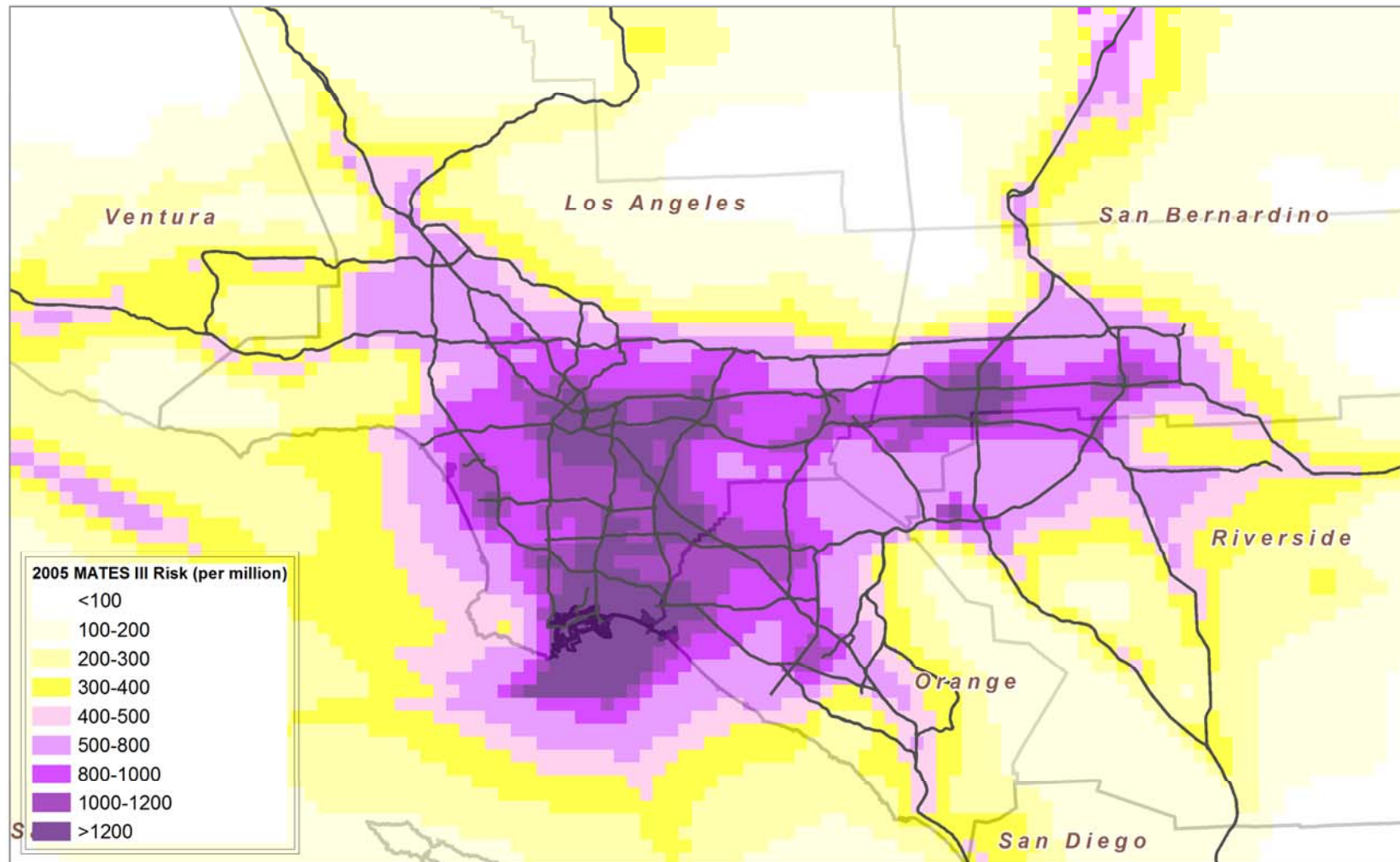


Figure 4-7
2005 MATES III CAMx RTRAC Simulated Air Toxic Cancer Risk

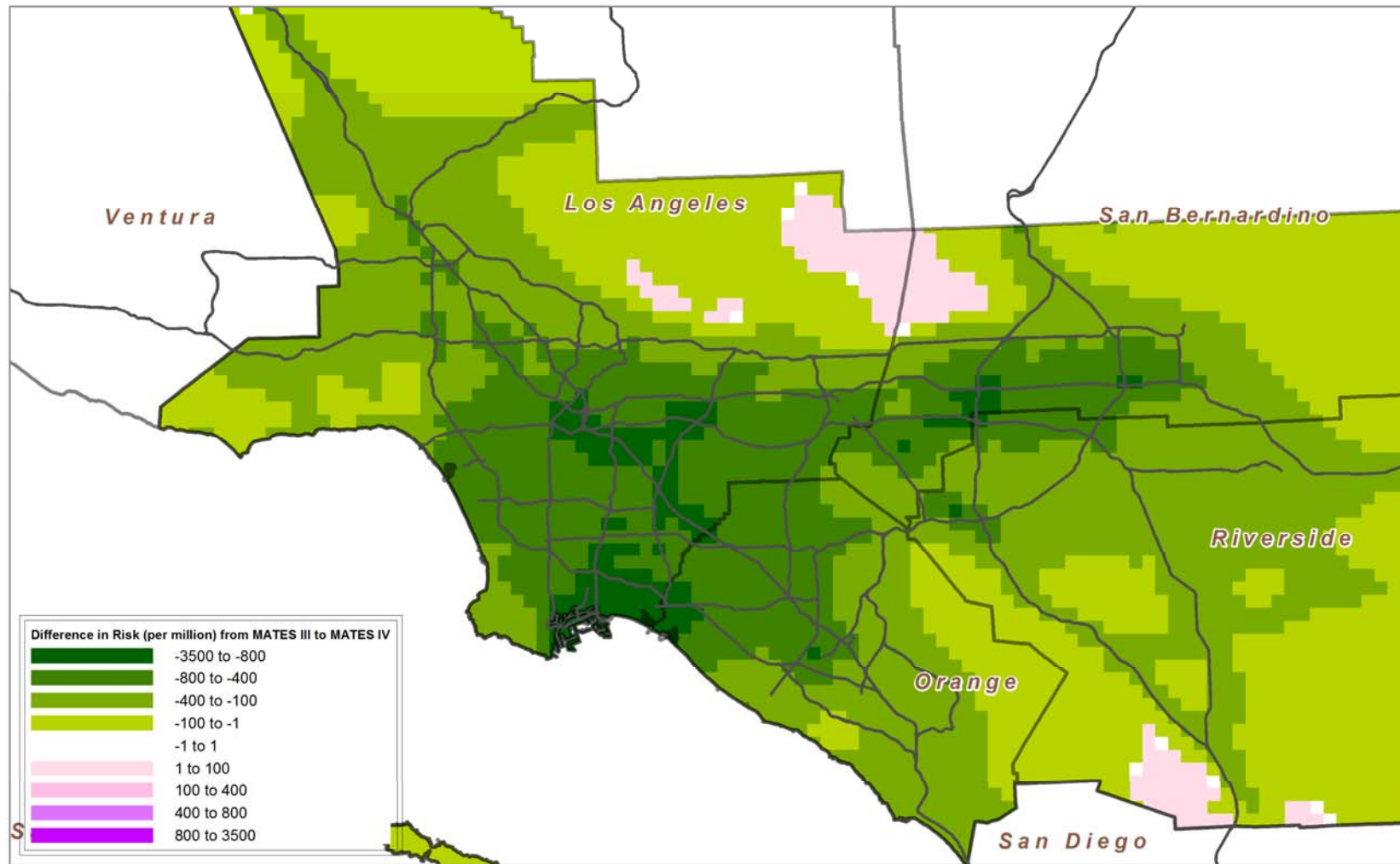


Figure 4-8
 Change in CAMx RTRAC Simulated Air Toxics Cancer Risk (per million) from 2005 to 2012/2013

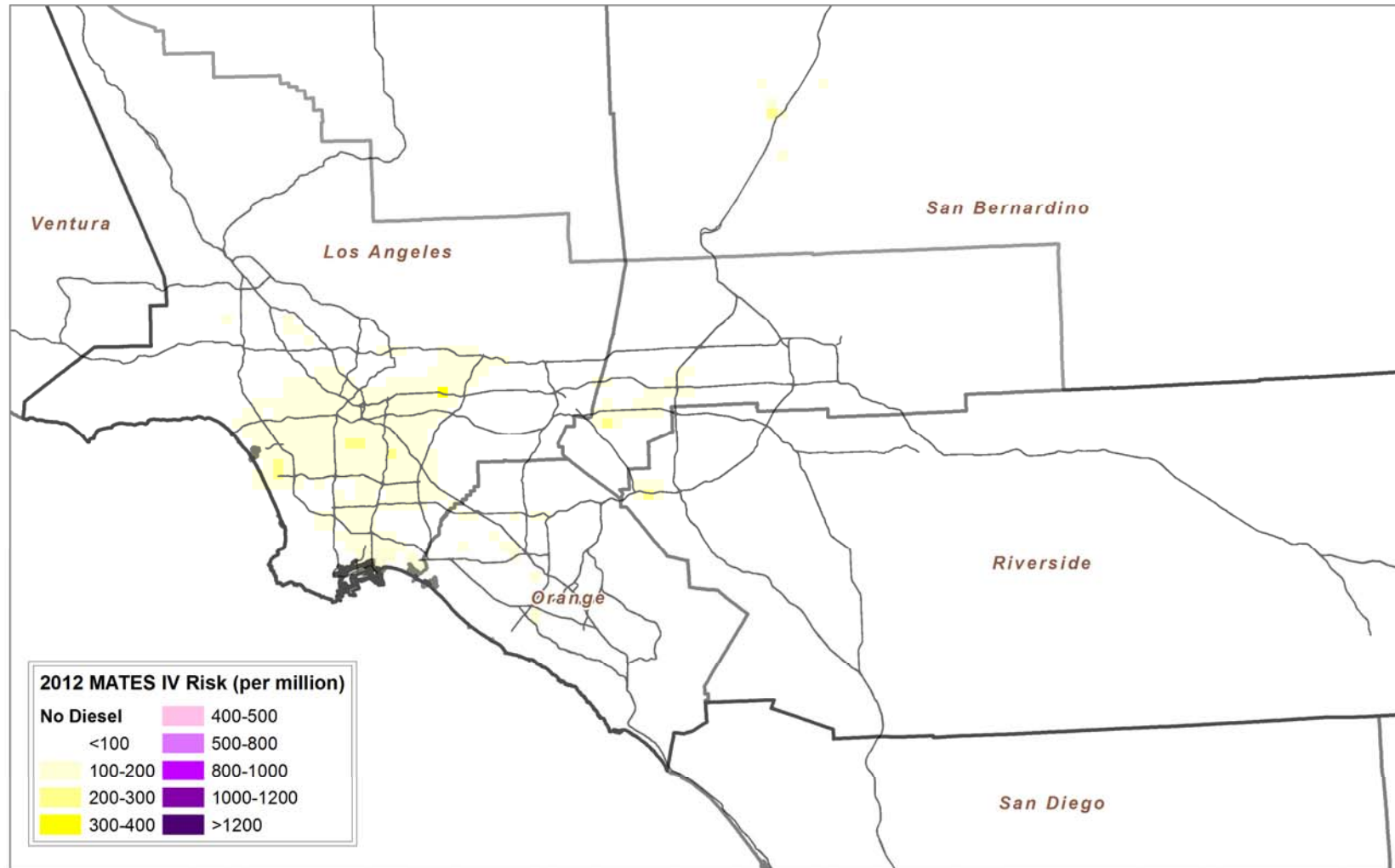


Figure 4-9
MATES IV Simulated Air Toxic Cancer Risk excluding Diesel PM

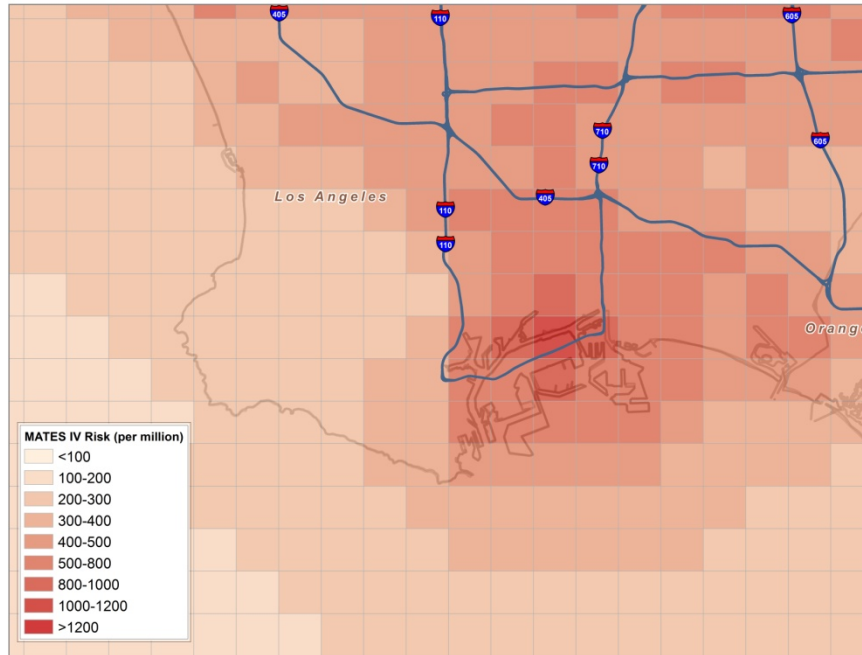


Figure 4-10
2012 Ports Area MATES IV Simulated Air Toxic Cancer Risk

Table 4-4
Basin and Port Area Population-Weighted Cancer Risk

Region	MATES IV		MATES III		Average Percentage Change in Risk
	2012 Population	Average Risk (Per Million)	2005 Population	Average Risk (Per Million)	
Basin	15,991,150	367	15,662,620	853	-57
Ports Area	998,745	480	959,761	1,415	-66
Basin Excluding Ports Area	14,992,806	359	14,702,859	816	-56

Figures 4-11 through 4-14 provide close-up depictions of risk in Central Los Angeles, Mira Loma, Colton, Central Orange County, and West Los Angeles areas, respectively.

Table 4-5 provides the county-by-county air toxics risk to the affected population. As presented in the spatial distribution, Los Angeles County bears the greatest average cancer risk at 415 per one million. The SCAB portion of San Bernardino County has the second highest projected risk at 339 per one million. The estimated risk for Orange County is 315 per million, and the SCAB portion of Riverside County was estimated to have the lowest population-weighted risk at 223 per million. As expected, the Coachella Valley portion of Riverside County, which is outside of SCAB, has the lowest toxic risk at 139 per million. It should be noted that these are county-wide averages, and individual communities could have higher risks than the average if they are near emissions sources, such as railyards or intermodal facilities.

Comparison of the county-wide population-weighted risk shows that the greatest reduction occurred in Orange County, but the amount of risk reduction among the counties is very similar. Reductions in emissions from mobile sources including benzene, 1,3-butadiene, and diesel particulate are the primary contributors to the improved county-wide risk. It is noteworthy that San Bernardino County now has higher population-weighted risk than Orange County. This is likely due to the port area having a proportionally larger impact in Orange County than in San Bernardino County.

Table 4-5
County-Wide Population-Weighted Cancer Risk

Region	MATES IV		MATES III		Average Percentage Change in Risk
	2012 Population	Average Risk (Per Million)	2005 Population	Average Risk (Per Million)	
Los Angeles*	9,578,586	415	9,887,127	951	-56
Orange	3,067,909	315	2,764,620	781	-60
Riverside*	1,784,872	223	1,548,031	485	-54
San Bernardino*	1,560,183	339	1,462,842	712	-52
SCAB	15,991,550	367	15,662,620	853	-57
Coachella Valley	465,064	139	N/A	N/A	N/A

* Including the SCAB portion only

N/A - MATES III modeling did not include the Coachella Valley

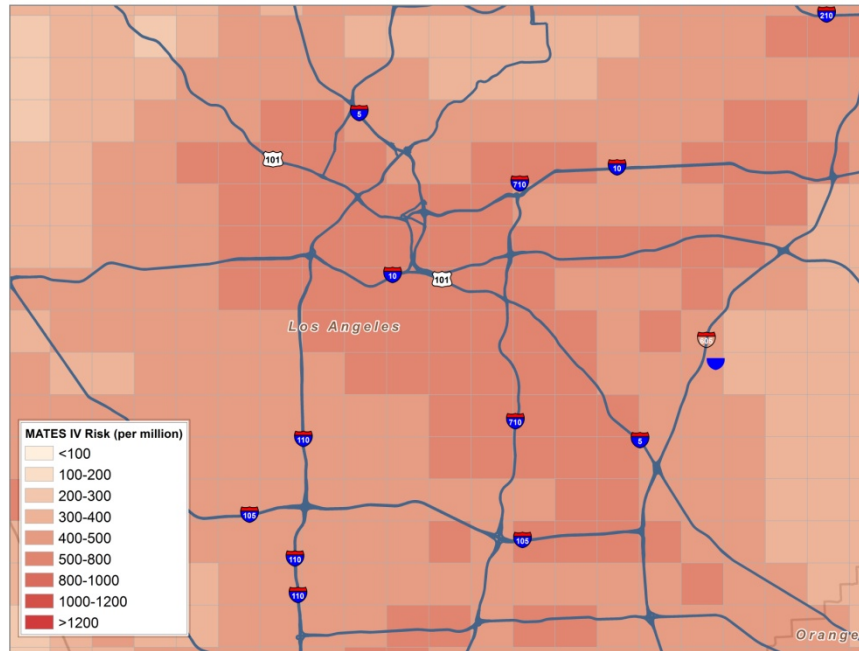


Figure 4-11

2012/2013 Central Los Angeles MATES IV Simulated Air Toxic Cancer Risk

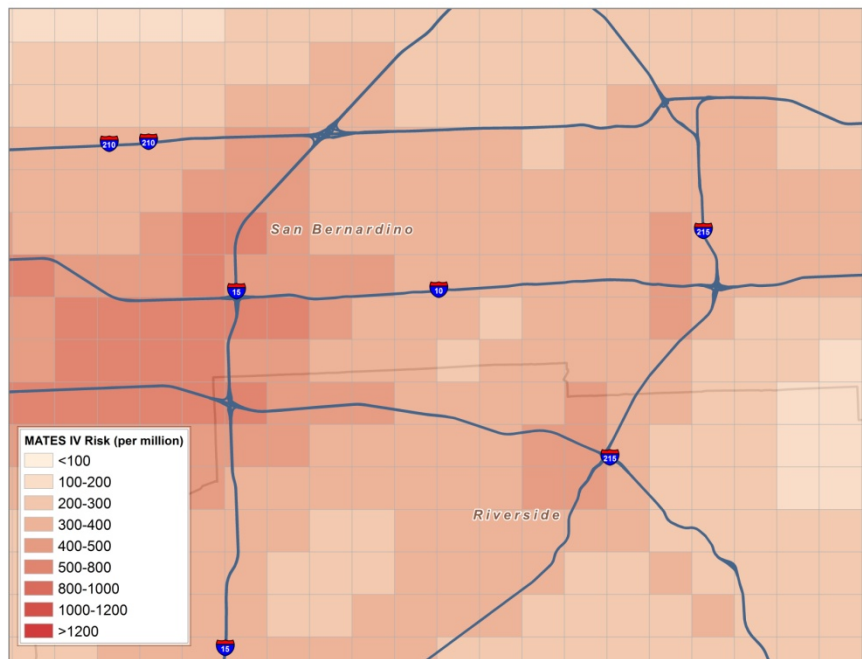


Figure 4-12

2012/2013 Mira Loma/Colton MATES IV Simulated Air Toxic Cancer Risk

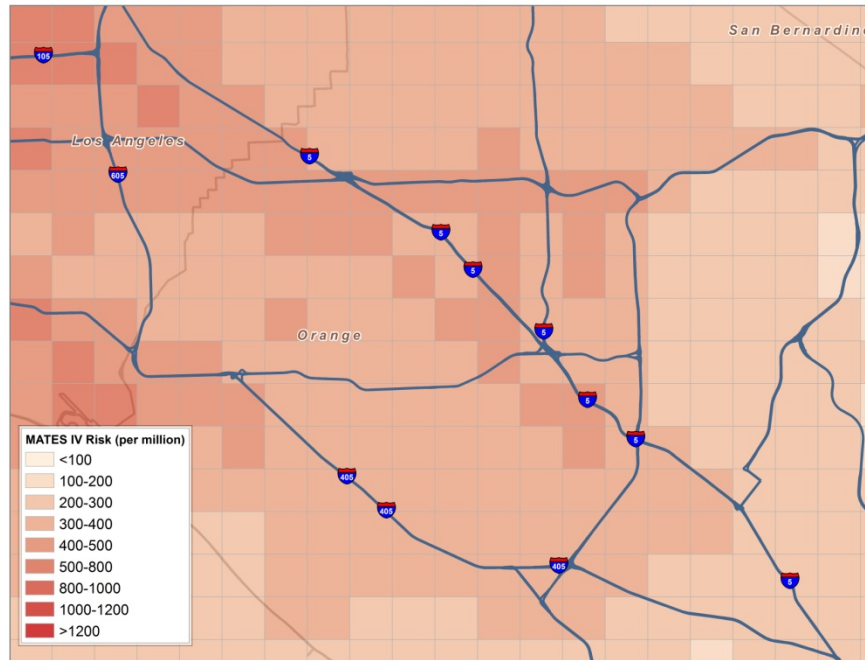


Figure 4-13
2012/2013 Central Orange County MATES IV Simulated Air Toxic Cancer Risk

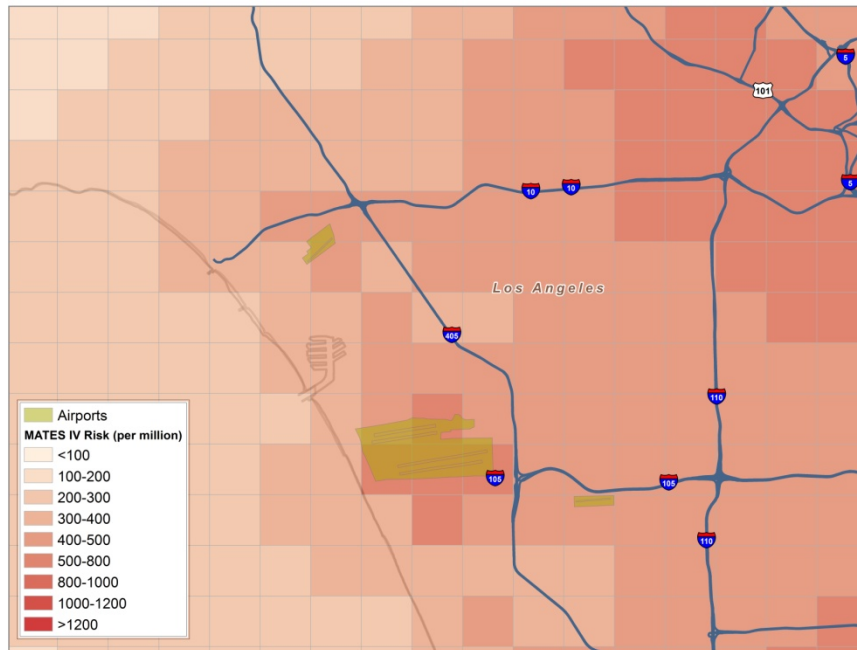


Figure 4-14
2012/2013 West Los Angeles MATES IV Simulated Air Toxic Cancer Risk

Table 4-6 provides the Basin-wide average risk associated with each of the key air toxics simulated in the analysis. Diesel particulate was responsible for the largest contribution to cancer risk from air toxics. The next three highest contributors included benzene, hexavalent chromium, and 1,3-butadiene.

Table 4-6
2012/2013 MATES IV Cancer Risk from Simulated Individual Toxic Air Contaminants

Toxic Compound	Risk Factor ($\mu\text{g}/\text{m}^3$)	Peak Annual Average Concentration	Population Weighted Annual Average Concentration	Units	Cumulative Risk (per million)	% Contribution
Diesel	3.00E-04	3.1	0.93	$\mu\text{g}/\text{m}^3$	279.67	76.2
Benzene	2.90E-05	0.51	0.25	ppb	22.82	6.2
Hexavalent Chromium	1.50E-01	0.001	1.37E-04	$\mu\text{g}/\text{m}^3$	20.52	5.6
1,3- Butadiene	1.70E-04	0.58	0.03	ppb	12.54	3.4
Secondary Formaldehyde	6.00E-06	2.35	1.24	ppb	9.12	2.5
Primary Formaldehyde	6.00E-06	2.71	0.50	ppb	3.7	1.0
Secondary Acetaldehyde	2.70E-06	0.93	0.73	ppb	3.56	1.0
Arsenic	3.30E-03	0.043	9.97E-04	$\mu\text{g}/\text{m}^3$	3.29	0.9
p-Dichlorobenzene	1.10E-05	0.11	4.38E-02	ppb	2.90	0.8
Perchloroethylene	5.90E-06	0.356	0.07	ppb	2.71	0.7
Naphthalene	3.40E-05	0.03	9.87E-03	ppb	1.76	0.5
Cadmium	4.20E-03	0.014	3.29E-04	$\mu\text{g}/\text{m}^3$	1.38	0.4
Nickel	2.60E-04	0.11	3.69E-03	$\mu\text{g}/\text{m}^3$	0.96	0.3
Primary Acetaldehyde	2.70E-06	0.67	0.16	ppb	0.80	0.2
Methylene Chloride	1.00E-06	0.59	0.21	ppb	0.74	0.2
Trichloroethylene	2.00E-06	0.39	3.08E-02	ppb	0.33	0.1
Lead	1.20E-05	0.065	4.17E-03	$\mu\text{g}/\text{m}^3$	0.05	<0.1

Table 4-7 provides the simulated air toxics risk at each of the 10 stations for the three main toxic compounds and the remaining aggregate based on the regional modeling. Risk is calculated using the predicted concentrations of each toxic component for the specific monitoring station location (based on a nine-cell weighted average concentration). The summary also provides the comparison between simulated average risk for the 10 stations combined and the average risk calculated using the annual toxic compound measurements and the estimated diesel concentrations at those sites.

Table 4-7
Comparison of Network Averaged CAMx RTRAC 2012-2013 Modeled Cancer Risk to Measured Risk at the 10 MATES IV Sites

Location	2012/2013 MATES IV CAMX RTRAC Simulation				
	Benzene	1,3-Butadiene	Diesel	Others	Total
Anaheim	26	14	301	54	395
Burbank	27	13	333	59	431
Central Los Angeles	33	19	516	78	646
Compton	26	17	383	63	489
Inland Valley San Bernardino	21	9	309	61	400
Huntington Park	30	62	389	96	576
North Long Beach	27	16	395	65	503
Pico Rivera	25	13	358	62	459
Rubidoux	20	7	296	46	369
West Long Beach	32	15	662	69	778
10-Station Average Modeled	27	18	394	65	505
10-Station MATES IV Average Measured (EC _{2.5} x 0.82 for Diesel)	35	33	287	47*	402

*Including modeled species only, Risk from some measured species, such as carbon tetrachloride, chloroform and PAHs are excluded.

Among the monitored areas, the highest simulated risk was estimated for West Long Beach followed by Central Los Angeles, Huntington Park, North Long Beach, and Compton. The lowest modeled risk was simulated at Anaheim. As previously discussed, simulation performances at those high risk sites showed a tendency for overprediction relative to measurements.

Cancer risk averaged over the 10 stations was simulated as 505 in a million, which is approximately 25% higher than the estimate from the measurements. This includes the

contribution of diesel particulates. An emission based conversion factor of 0.82 was applied to the EC_{2.5} measurements in order to estimate the diesel PM contributions (See Chapter 2).

The nondiesel portion of the simulated cancer risk can be directly compared to risk calculated from the toxic compound measurements. Figure 4-15 presents a comparison of the model simulated and measurement estimated nondiesel risk at each monitoring site, as well as the 10-station average. Simulated nondiesel risk is within 30% of measurements at all stations. The simulated 10-station average cancer risk agrees very well with the risk estimated from the measurements.

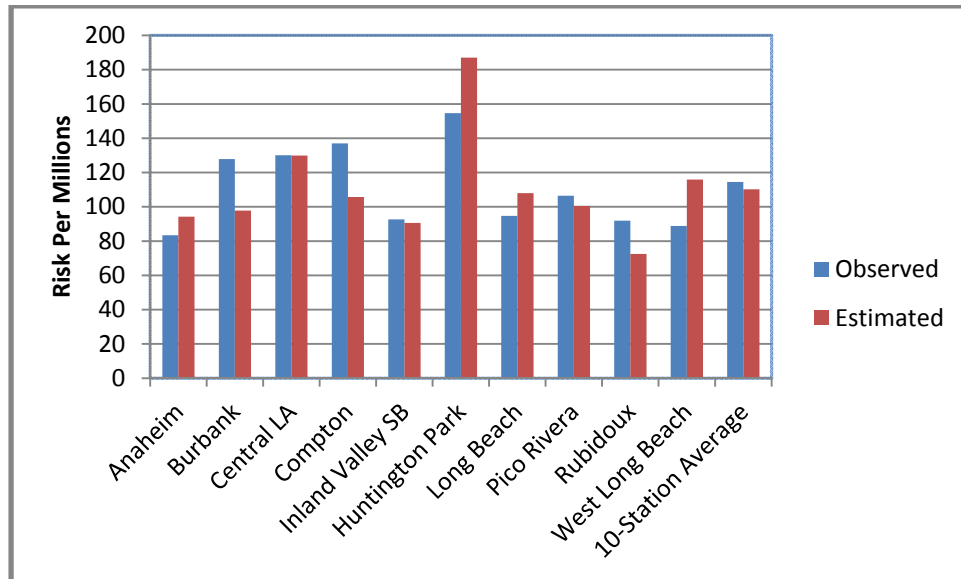


Figure 4-15

2012/2013 MATES IV Simulated vs. Measured NonDiesel Air Toxics Risk

4.6 Evaluation

The population-weighted average Basin air toxics risk (367 per million) simulated using CAMx RTRAC for the 2012-2013 MATES IV period was estimated to be 57% lower than that estimated (853 in a million) for the MATES III period. The areas of the Basin that are exposed to the most risk continue to be the Ports of Los Angeles and Long Beach with a secondary maximum occurring in an area around a railyard in Los Angeles.

A majority of the risk reduction was due to a 66% reduction in diesel emissions from 2005 to 2012. The emissions reductions of benzene (11%), 1,3-butadiene (50%), arsenic (43%) and other air toxics also contribute to the overall reduction in 2012/2013 simulated risk. A general assessment of the observed meteorological conditions for the two simulated years suggests that the two monitoring periods had comparable potentials for pollutant dispersion.

4.7 Updates to Cancer Risk Estimation Methods

The California Environmental Protection Agency Office of Environmental Health Hazard Assessment (OEHHA) has adopted revised methods for estimating cancer risks (CalEPA, 2015). The proposed new method includes utilizing higher estimates of cancer potency during early life exposures. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined together, staff estimates that risks for the same inhalation exposure level will be about 2.5 times higher using the proposed updated methods. This would be reflected in the average lifetime air toxics risk estimated from the monitoring sites data going from 418 per million to an 1023 per million. While the previous method is used to compare results with past studies, staff notes that using the updated method would give the same percentage change in risks for previous MATES study estimates.

Under the revised risk assessment methodology, OEHHA has made refinements to be more health protective of children. Among other things, age sensitivity factors (ASFs) are now included in the risk calculations. These factors increase the carcinogenic potency by a factor of 10 for exposures occurring between 0 and 2 years of age, and increase the potency by a factor of 3 for exposures between ages 2 and 16. Refinements have also been made to the intake rates (e.g., breathing and ingestion rates) for the various exposures pathways (inhalation, soil, dermal, etc.) by age as well. For example, instead of using a single estimate of lifetime breathing rate for a point estimate of risk, point estimates of breathing rate for various age groups are applied. These latter two changes increase the estimate of dose at a given exposure concentration. An additional change is using 30 years as the time of residence at a given receptor rather than the current 70 years. This latter change decreases the estimate of dose at a given concentration. Applying these changes in age specific potency factors, age specific breathing rates and time of residence gives the overall estimate of the change in risk from inhalation exposures of about a 2.5 fold increase.¹ Unit Risk Factors were calculated based on the revised methodology and are show in Appendix I.

Applying the calculated Unit Risk Factors based on the update methodology to the modeled ambient levels gives a higher estimated risk across the SCAB as depicted in Figure 4-16. As shown, the revised risk levels based on the revised methodology are similar to those originally calculated for the MATES III study using the then current risk assessment methodology.

¹ In the October, 2014 Draft MATES IV Report, the increased in risk estimates was given as a 2.7 fold increase. This was based on using the 90th percentile of breathing rate distribution. In anticipation of CARB guidance for risk management, we have used the 80th percentile of the breathing rate distribution for ages greater than 2 years. This resulted in a 2.45 fold change in the estimate of risk.

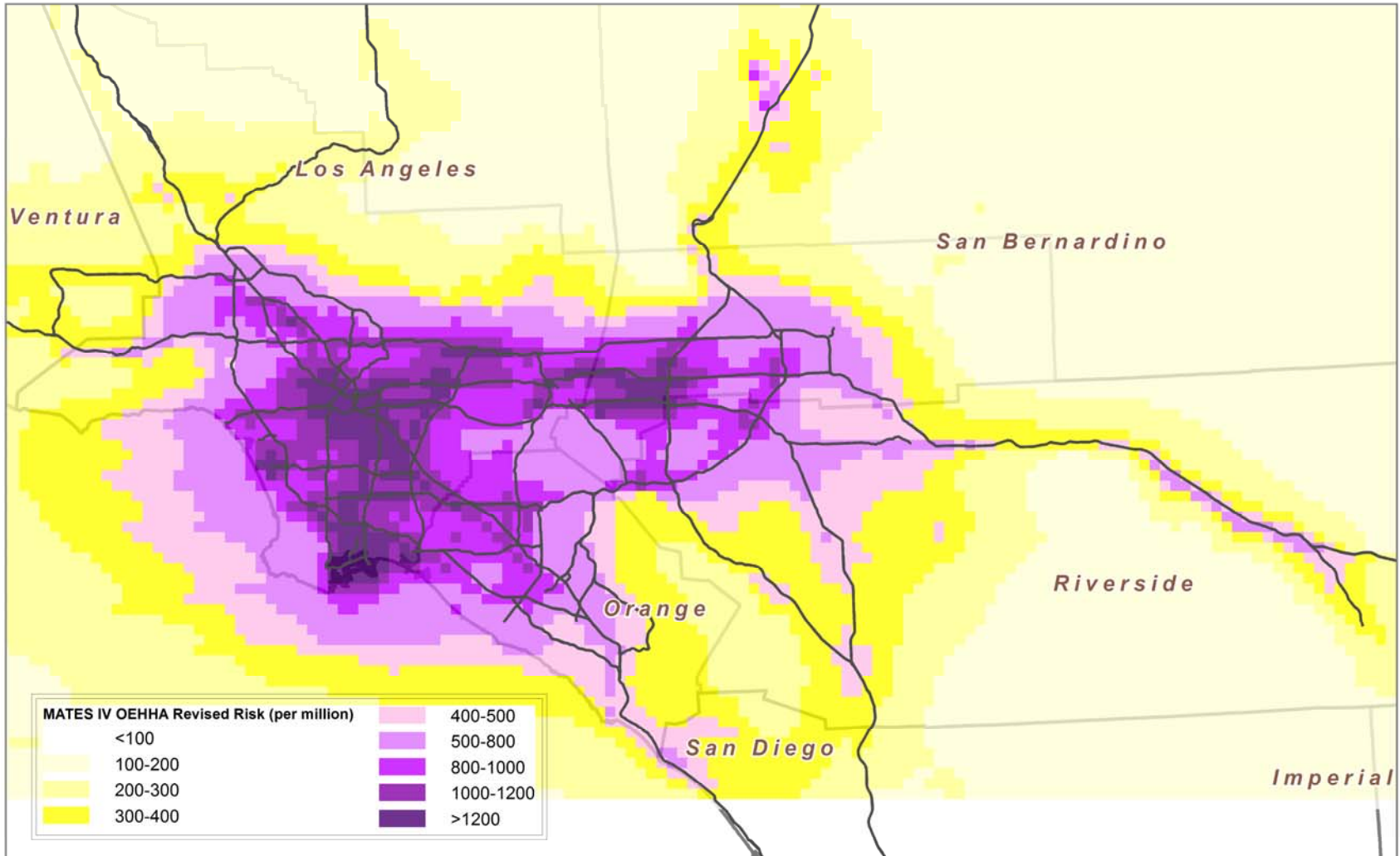


Figure 4-16
MATES IV Modeled Air Toxics Risks Estimates using OEHHA Updated Method

4.8 Comparison with another Pollution Impacts Mapping Tool (CalEnviroScreen)

Below is a comparison of the MATES IV estimated diesel PM emissions with that of another analysis that estimated emissions of this substance, the California Communities Environmental Health Screening Tool (CalEnviroScreen).

The California Communities Environmental Health Screening Tool (CalEnviroScreen) has been developed by the Office of Environmental Health Hazard Assessment (OEHHA) and California Environmental Protection Agency (CalEPA). It is a science-based guidance and screening tool aiming to assess the cumulative impacts of environmental pollution in California communities. It is primarily designed to identify disadvantaged communities and is used to assist planning and decision-making such as administering environmental justice grants, prioritizing cleanup activities and guiding environmental community programs. Unlike MATES, which is a quantitative health risk assessment, CalEnviroScreen is a screening methodology that provides a relative ranking of impacted communities, and is not intended to be comparable to full risk assessments.

In August 2014, CalEnviroScreen version 2.0 (CES 2.0) was released. CES 2.0 produces results at the census tract level with approximately 8,000 census tracts in California and approximately 3,600 tracts within the jurisdiction of SCAQMD. The CES 2.0 model consists of two component groups – pollution burden and population characteristics. A set of statewide indicators (Table 4-8), selected based on existing environmental, health, demographic and socioeconomic data, is used to characterize pollution burden and population characteristics. Note that up to three pollution burden exposure indicators (diesel PM emissions, traffic density, and toxic releases) have potential to correspond to the emissions data that was used for MATES IV analysis.

Table 4-8
Indicators used to Represent Pollution Burden and Population Characteristics in CalEnviroScreen 2.0

Component Group 1: Pollution Burden		Component Group 2: Population Characteristics	
Exposures	Environmental Effects	Sensitive Populations	Socioeconomic Factors
PM 2.5 concentrations	Cleanup sites	Children and elderly	Educational attainment
Ozone concentrations	Groundwater threats	Asthma emergency department	Linguistic isolation
Diesel PM emissions	Impaired water bodies	Low birth weight births	Poverty
Pesticide use	Solid waste sites and facilities		Unemployment
Toxic releases from facilities	Hazardous waste		
Traffic density			
Drinking water quality			

For each indicator, a value is assigned for each census tract. Among the areas with an indicator value, the values are ranked from highest to lowest and a statewide percentile score is created for each indicator in each census tract. The percentile score for all individual indicators is averaged in each component group and then divided by the maximum value observed in the State. In the pollution burden component group, environmental effects indicators are weighted half as much as the exposure indicators. The component group scores are both scaled to a maximum of 10 with a possible range of zero to 10. Finally, the overall CES score is calculated by multiplying the scaled component group score for pollution burden by the scaled component group score for population characteristics. The highest possible CES percentile score is 100 with an equal contribution from the two component groups. An area with a high score would be expected to have higher pollution burdens and vulnerabilities than other areas with low scores. More details

about the indicator selection and scoring, model characteristics and methodology can be found in the CES 2.0 documentation.

Figure 4-17 depicts the CES 2.0 score in SCAQMD highlighting the census tracts scoring in the highest percentiles across the state. Most urbanized areas are in the top 30% score, indicating these tracts have relatively high pollution burdens and population sensitivities compared to other communities in the State. In particular, a significant fraction of census tracts in the Los Angeles, Riverside and San Bernardino counties are in the top 10% of the relative statewide scoring.

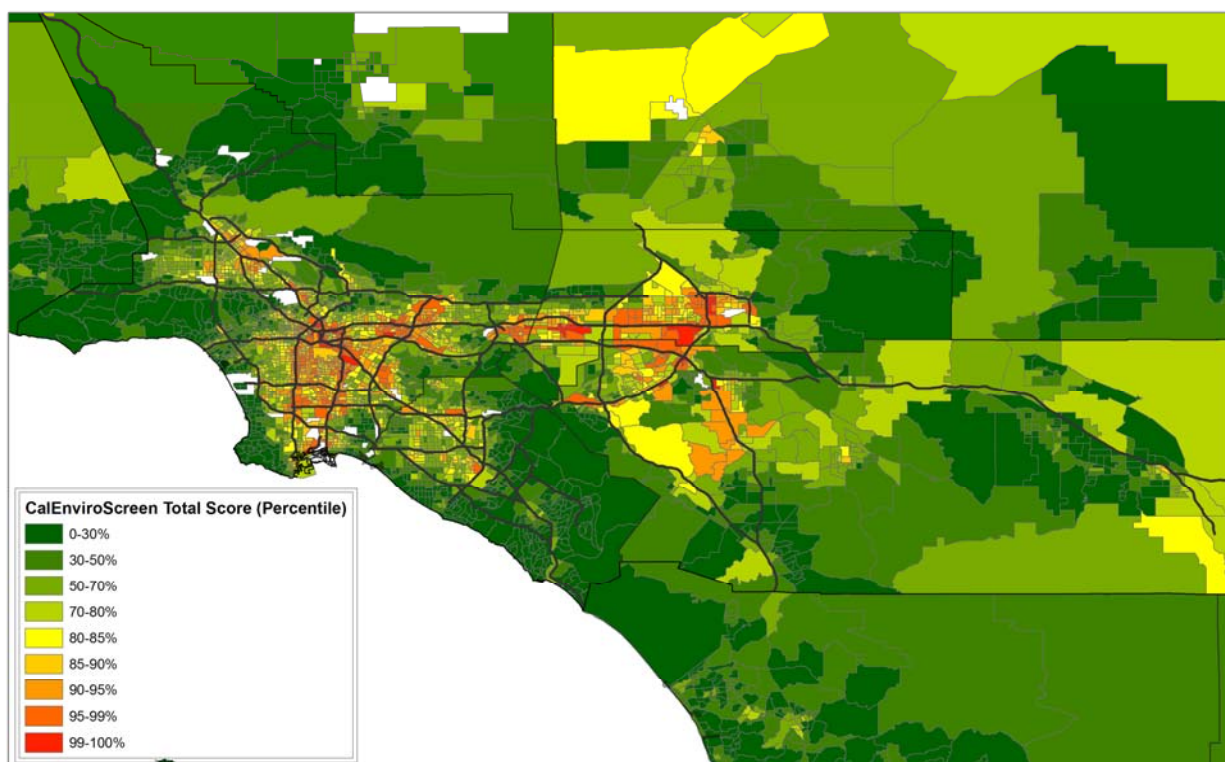


Figure 4-17

CalEnviroScreen 2.0 Overall Scores. *Data retrieved from OEHHA in September 2014.*

Within the pollution burden component, five out of the 12 indicators (PM_{2.5} concentrations, ozone concentrations, diesel PM emissions, toxic releases from facilities and traffic density) are utilized to fully or partially characterize air pollution exposure. CES 2.0 estimates diesel PM emissions based on emission inventories and models similar to those used in MATES IV. On-road diesel PM emissions are calculated using California Air Resources Board (CARB)'s EMFAC 2013 for a 2010 summer day in July, and non-road diesel PM emissions are estimated from CARB's emission inventory forecasting system (CEPAM). County-wide estimates are distributed to 4 km grid cells and allocated to census tracts. Figure 4-18 shows the statewide percentile score of diesel PM emissions. Central Los Angeles and the Long Beach Port area score the highest (top 1%, shown as red color) in the State.

The diesel PM emissions in the MATES IV period (July 2012 to June 2013) are shown in Figure 4-19. Despite different study time period and geographical units, the spatial distribution of diesel PM emissions in MATES IV is similar to the diesel PM emission pattern in CES 2.0. Both

models yield the highest diesel PM emissions in Central Los Angeles and in the area near the Ports.

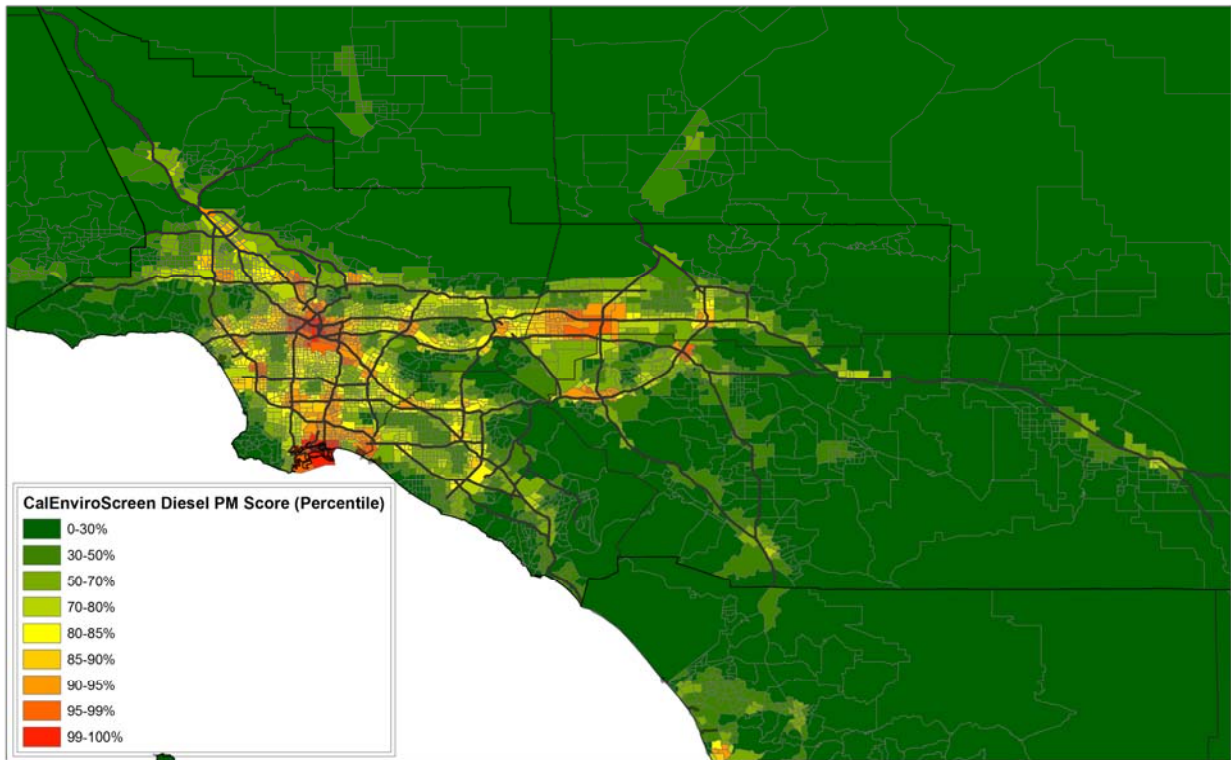


Figure 4-18

CalEnviroScreen 2.0 Diesel PM Scores. *Data retrieved from OEHHA in September 2014.*

Diesel Emissions (PM_{2.5})

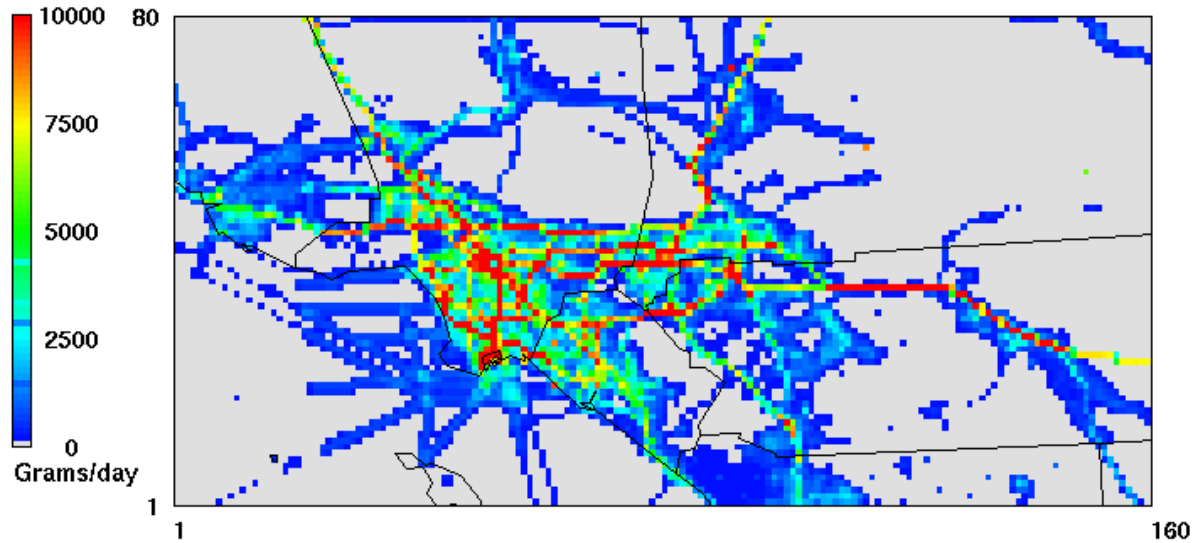


Figure 4-19
Weekday average emissions pattern for Total Diesel PM_{2.5}.

While CalEnviroScreen can assist CalEPA in prioritizing resources and helping promote greater compliance with environmental laws, it is important to note some of its limitations. The tool's output provides a relative ranking of communities based on a selected group of available datasets, through the use of a summary score. Unlike MATES, the CalEnviroScreen score is not an expression of health risk, and does not provide quantitative information on increases in cumulative impacts for specific sites or projects. Further, as a comparative screening tool, the results do not provide a basis for determining when differences between scores are significant in relation to public health or the environment. Accordingly, CalEnviroScreen is not intended to be used as a health or ecological risk assessment for a specific area or site.

4.9 References

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<http://www.arb.ca.gov/msei/modeling.htm>

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CHAPTER 5

ULTRAFINE PARTICLES AND BLACK CARBON MEASUREMENTS

Chapter 5 Ultrafine Particles and Black Carbon Measurements

5.1 Introduction

One of the key findings of the MATES III Study was that diesel particulate matter (DPM) accounts for over 80% of the total carcinogenic risk due to exposure to air toxics in the South Coast Air Basin (SCAB) (MATES III; SCAQMD, 2008). DPM is mostly comprised of impure carbon particles (soot) resulting from the incomplete combustion of diesel-type fuels and is often emitted along with ultrafine particles (UFP) and other combustion products. Soot is often referred to as black carbon (BC) or elemental carbon (EC) depending on the measurement method used (see Chapter 2 for details). In urban areas, EC and BC are often considered good surrogates for DPM. Although EC and BC are currently unregulated, the implementation of national, state and local regulations and programs to mitigate fine PM (i.e. $PM_{2.5}$) and diesel emissions often results in the control of EC and BC.

While substantial effort has been made to characterize the health risks associated with exposure to $PM_{2.5}$ in general and DPM in particular, the health impact caused by exposure to UFPs is still not well-understood. These very small particles have a diameter of 100 nm or less, consist of organic material, soot, trace metals, and are likely to be more toxic than larger PM fractions. Because of their small size, UFPs can penetrate deeply into the respiratory tract, into the bloodstream, and can be transported to other critical organs such as the heart and the brain. Thus, exposure to UFPs can potentially cause adverse health effects (both acute and chronic) in humans (HEI, 2010).

In an attempt to better characterize their spatial and temporal variations in the SCAB, potential sources and mechanism of formation, and their potential impact on public health, continuous measurements of UFP and BC concentrations were taken at all 10 MATES IV fixed sites, using state-of-the-art methods and techniques that were not mature at the time of MATES III.

BC measurements (i.e. 1- to 5-min. time resolution) were carried out using two different types of Aethalometers (AE22; Magee Scientific, Berkeley, CA; and AE33; Teledyne API, San Diego, CA). These are instruments that continuously measure the light transmission through particulate matter (PM) collected on a sampling filter. Specifically, they utilize the light-absorbing properties of BC-containing particles at a wavelength of 880 nm in order to gain a light absorption coefficient, which is related to the particulate BC mass concentration. Aethalometers are small, reliable, easy to operate, provide continuous real-time data, and are the most common instruments used to measure ambient BC. The principle of operation of both types of Aethalometers used during MATES IV is described in detail in Appendix III.

Ultrafine particle number concentration data was collected continuously (i.e. 1-min. time resolution) using water-based condensation particle counters (CPC Model 651; Teledyne API, San Diego, CA). This instrument provides the total number concentration of particles above 7 nm in real-time. UFPs are grown through condensation in a controlled super-saturation environment to larger sizes that can be detected and counted using a photodetector. The particular model used during MATES IV was specifically designed for routine ambient air quality monitoring in network applications (See Appendix VII for details).

Continuous BC and UFP measurements were conducted at all 10 fixed MATES IV locations (i.e. West Long Beach, North Long Beach, Compton, Huntington Park, Pico Rivera, Central Los Angeles, Burbank, Inland Valley San Bernardino, Rubidoux, and Anaheim) for a period of at least 12 months from July 2012 until the end of June 2013, or beyond. Only data collected from July 1, 2012, through June 30, 2013 have been included for the present report. The SCAQMD is committed to achieving the highest possible data quality level. A comprehensive summary of the data review and validation procedures is provided in Chapter 2 and Appendix III.

5.2 Measurement Results

The spatial and temporal variations in BC and UFP concentrations discussed below provide invaluable information regarding daily and seasonal patterns and, more importantly, potential source contributions of these two air pollutants throughout the SCAB.

5.2.1 Spatial Variations

Figure 5-1 shows the study average BC concentration at each of the 10 fixed sites, along with the overall Basin average BC concentration [MATES IV (AVG)] and the Basin average EC concentration for both MATES III and MATES IV [MATES III (EC) and MATES IV (EC), respectively]¹. Typically, the highest BC levels were observed at the more urban sites located near major roadways (i.e. Burbank, Central Los Angeles, Pico Rivera and Huntington Park) and at inland/receptor sites such as Inland Valley San Bernardino and Rubidoux. While BC was not measured during MATES III, the average EC levels decreased substantially (about 35% reduction) from MATES III to MATES IV (See Chapter 2).

¹ BC and EC both refer to impure carbon particles resulting from combustion processes. While these terms are often used interchangeably, they are two methodologically-defined species that are measured using optical and thermal-optical methods, respectively. A comprehensive comparison between BC and EC measurements is available in Appendix VI.

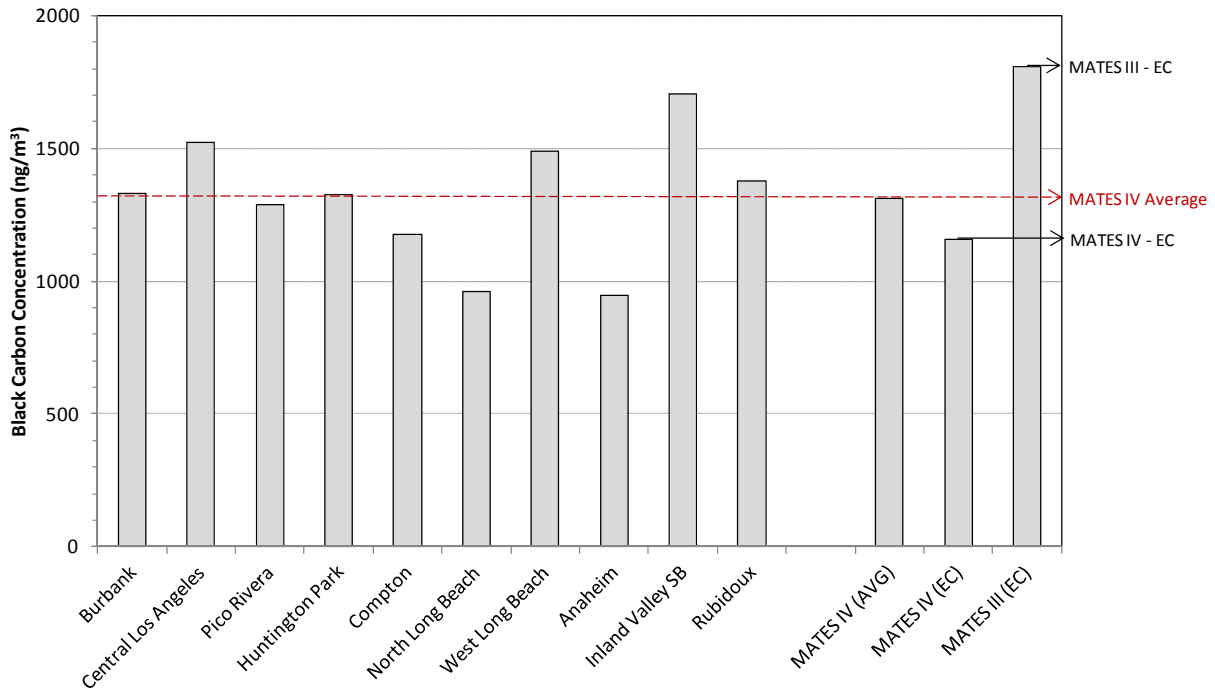


Figure 5-1 – Spatial Distribution of Average Black Carbon (BC) Concentrations during MATES IV and Comparison with MATES IV and MATES III Elemental Carbon (EC) Averages.

Sampling sites located near heavily-trafficked freeways are usually characterized by increased levels of UFPs compared to more rural sites. For this reason the West Long Beach site (located in a highly industrial area near the San Pedro Bay Port complex) exhibited the highest study average UFP concentration during MATES IV (Figure 5-2).

In particular, BC and UFP levels in West Long Beach are probably affected by emissions from the Terminal Island Freeway 103 located upwind of the sampling station, where vehicular traffic from goods movement associated with the San Pedro Bay Ports is particularly pronounced. Similarly, emissions from railroads and goods movement are likely to contribute to the elevated study average UFP concentration observed at the Huntington Park site (Figure 5-2).

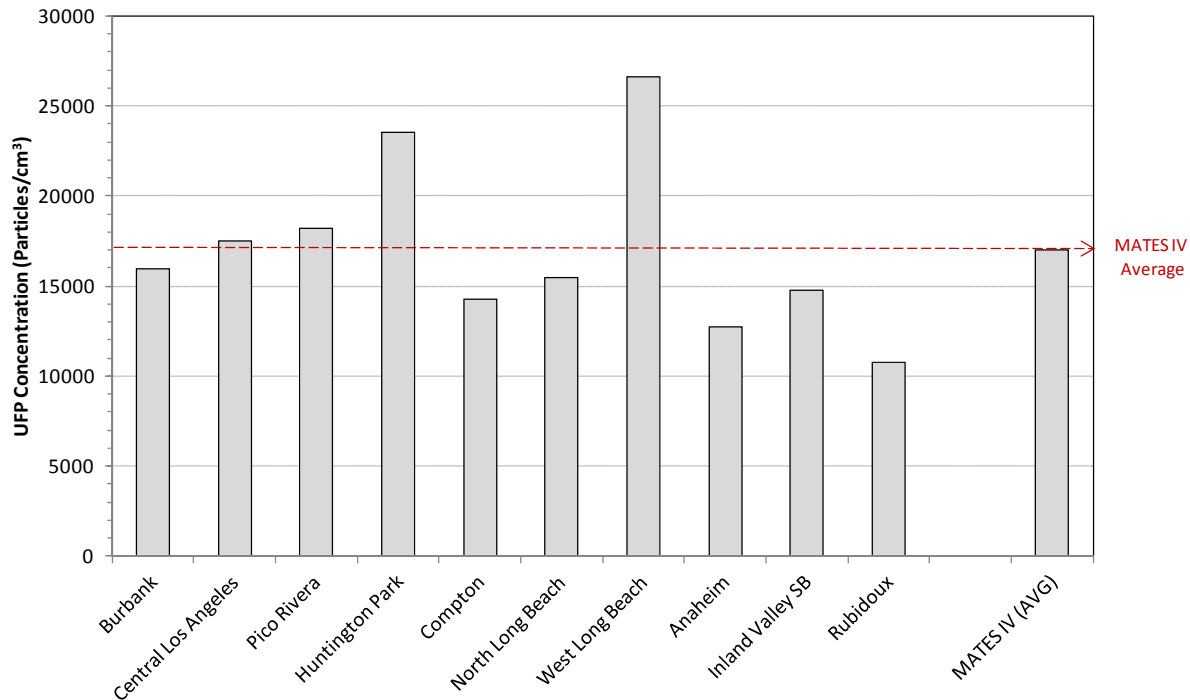


Figure 5-2 – Spatial Distribution of Average Ultrafine Particle (UFP) Concentrations during MATES IV.

5.2.2 Temporal Variations

Both BC and UFP exhibited considerable daily, monthly, and seasonal variations. Studying these variations can yield insights into potential contributions from local and regional sources. Hourly average measurements (discussed in Appendix VI and VII) can also provide estimates of the frequencies and magnitudes of high concentrations to which the SCAB population might have been exposed.

5.2.2.1 Monthly Trends

Occurrences of high daily mean BC and UFP concentrations were observed mostly during the colder months (November to February), as shown in Figures 5-3 to 5-5. Conversely, concentrations during the spring and summer months (April to August) were distinctly lower.

As mentioned earlier, vehicular diesel exhaust often contributes to increasing the ambient concentration of BC at most sites. Other potential sources may include industrial emissions (particularly diesel-powered), meat charbroiling, biomass burning, and heavy fuel oil combustion (ship emissions). Emissions from these sources often show some seasonality and may impact the spatial distribution of BC within the Basin (Magliano, 1999; Reinhart, 2006). For instance, the higher BC concentrations observed during the winter season can be partly attributed to enhanced BC emissions from increased usage of wood burning for space heating (Jordan, 2006; Fine, 2004). Variations in meteorological conditions are another important contributing factor. The boundary layer in the winter is much shallower than in the summer; this causes a lowering of the “mixing height,” less atmospheric transport and dilution, and thus a consequent increase in atmospheric BC concentrations.

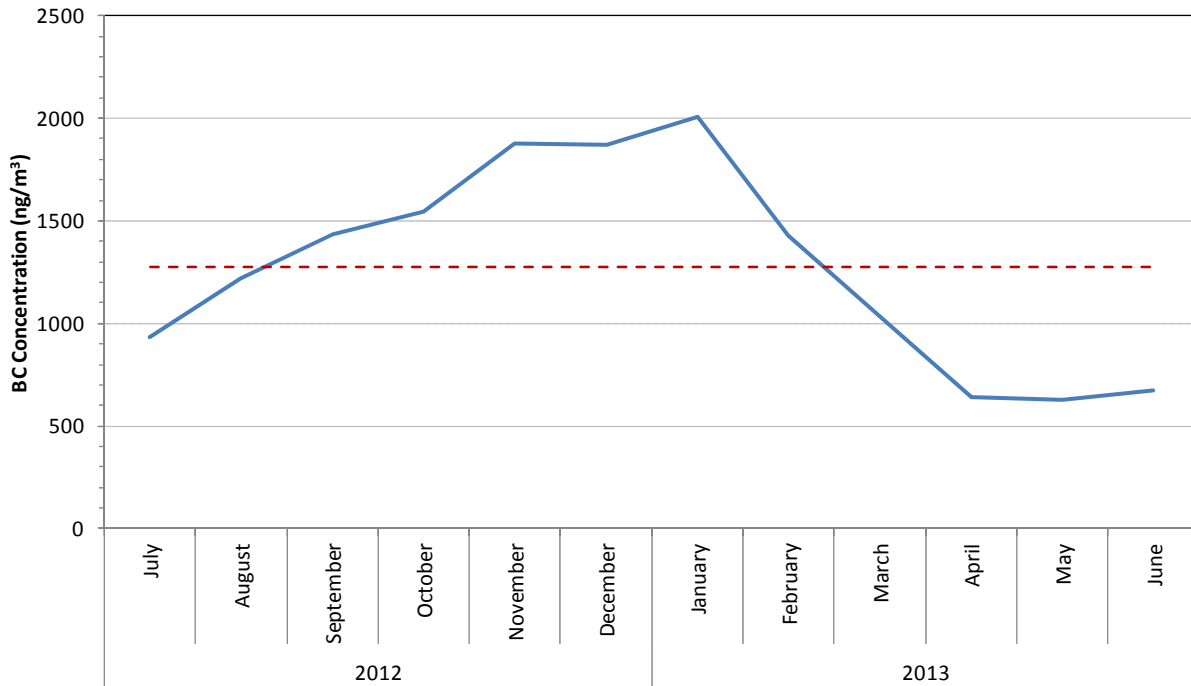


Figure 5-3- Monthly Average Black Carbon (BC) Concentration Trends in the South Coast Air Basin During MATES IV. The Red Line Represents the Study Average BC Concentration During MATES IV.

These seasonal trends are further highlighted in Figure 5-4, where BC concentrations for each site were averaged over a period of three months (i.e. summer: June, July and August; fall: September, October and November; winter: December, January and February; and spring: March, April and May).

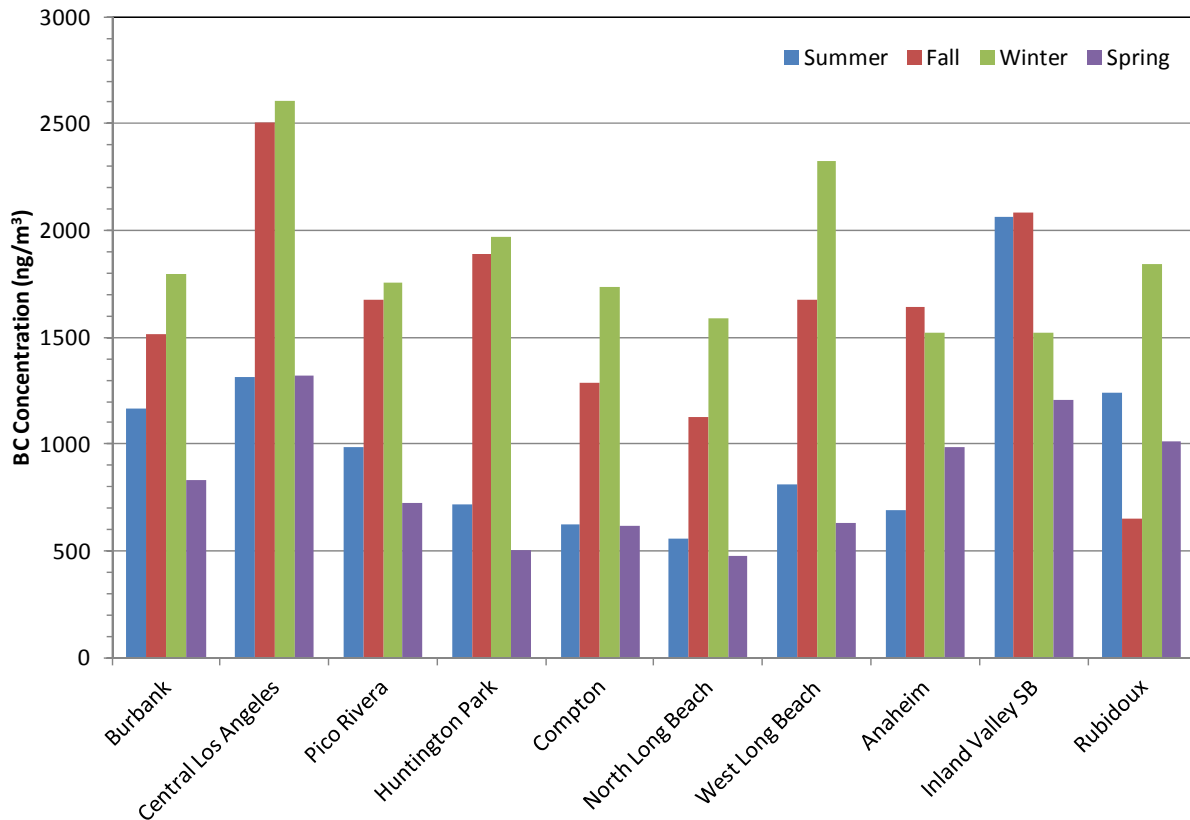


Figure 5-4 - Seasonal Variations of Black Carbon (BC) Concentrations at Each MATES IV Site.

Figure 5-5 displays the seasonal variation in UFP concentration for all 10 fixed monitoring sites. In most instances, the winter months were characterized by increased UFP levels. This is because, in the winter, decreased ambient temperatures and lower mixing heights led to less atmospheric particle dilution and favor the formation of a larger number of small UFP particles (Kittleson 1998, Wang et al. 2013).

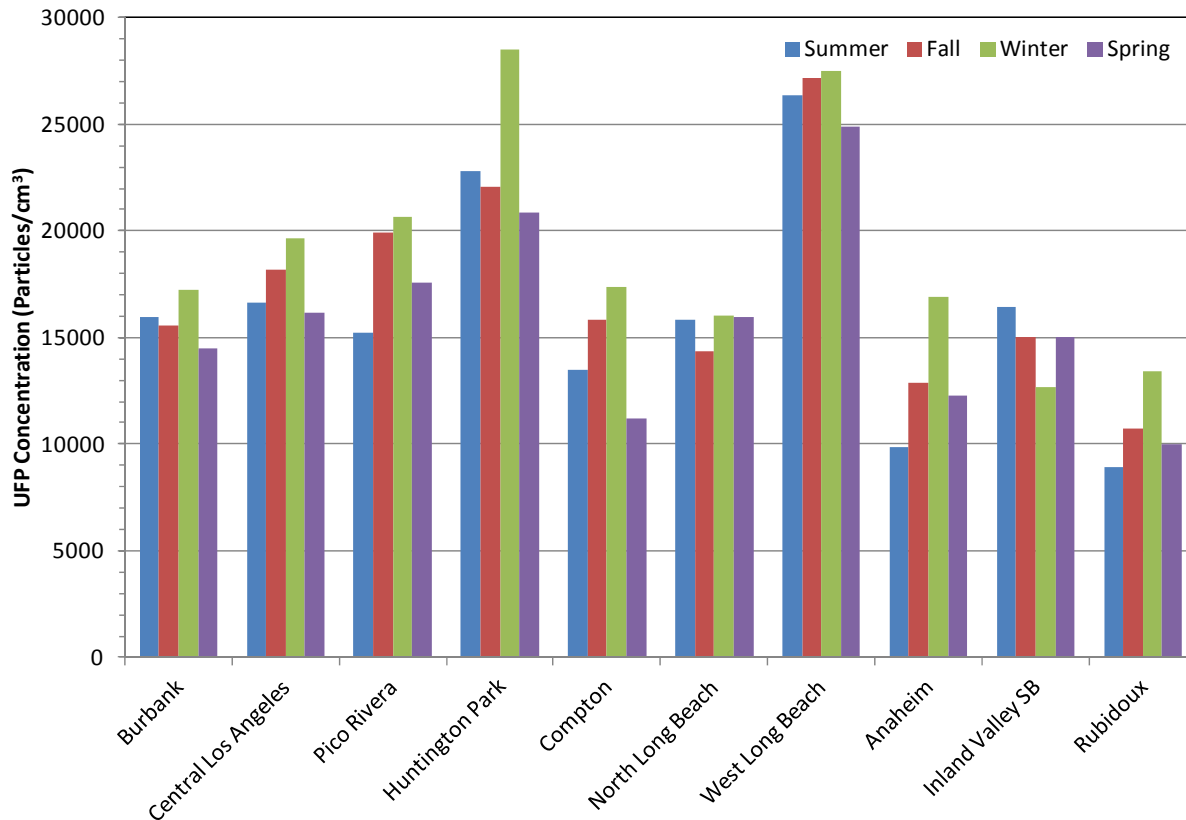


Figure 5-5 - Seasonal Variations of Ultrafine Particle (UFP) Concentrations at Each MATES IV Site.

5.2.2.2 Diurnal Trends

Typically, BC and UFP exhibit distinct diurnal profiles. BC is associated with primary combustion activities and is widely considered as one of the best indicators of mobile source emissions (diesel vehicles in particular) in urban environments. BC and UFP concentrations in urban environments have been shown to closely follow the temporal variation in traffic density, with the highest levels observed on weekdays during rush hours (Hussein et al., 2004; Morawska et al., 2008; AQMD, 2012). UFPs can also be formed by photochemical reactions in the atmosphere, particularly in photochemically-active, sunnier seasons. This is often reflected in a mid-day peak associated with secondary particles.

The 10-site average diurnal variation of BC (indicative of the typical diurnal BC trend in the South Coast Air Basin) is shown in Figure 5-6. Typically, the BC mass concentration peaked in the morning between 0600 and 0900 PST because of rush-hour traffic and decreased throughout the day due to decreased traffic volume, increased wind speeds and subsequent dispersion of ambient pollutants. Early in the evening, evening rush hour, lower wind speeds and a shallow inversion layer led to a slight increase in BC concentration and stable conditions until the early morning.

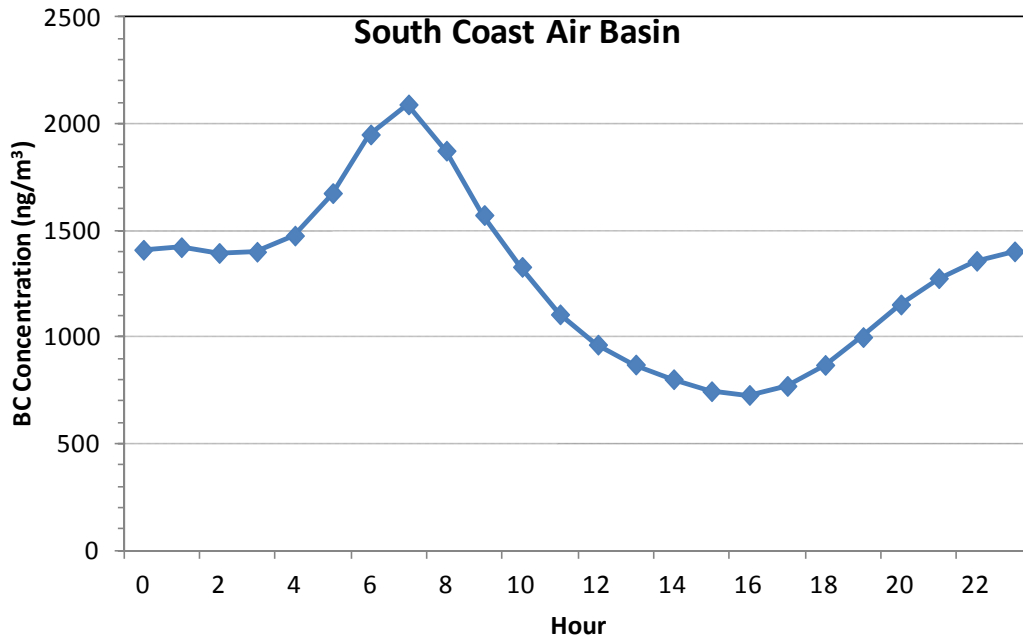


Figure 5-6 - Diurnal Variation in Black Carbon (BC) Concentration in the South Coast Air Basin During MATES IV

The effect of the meteorology on the diurnal trend of BC is more evident when comparing diurnal patterns in different seasons (Figure 5-7). As expected, diurnal variations are more pronounced in the winter and fall because of more stable atmospheric conditions, as explained in previous sections.

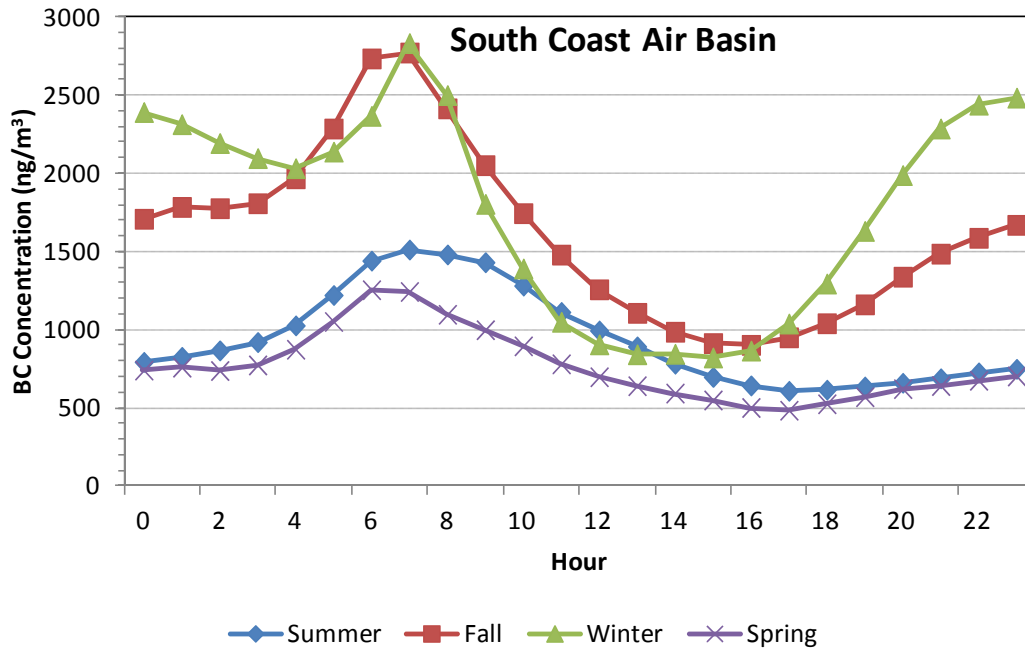


Figure 5-7 - Diurnal Variation in Black Carbon (BC) Concentration in the South Coast Air Basin During MATES IV

Unlike what was observed for BC, the study average diurnal trend for UFP is characterized by three distinct peaks, one early in the morning coinciding with rush hour traffic, followed by a wider mid-day peak which is probably related to photochemical particle formation, and a less pronounced peak in the late afternoon, mostly caused by evening rush hour and a lower mixing height (Figure 5-8).

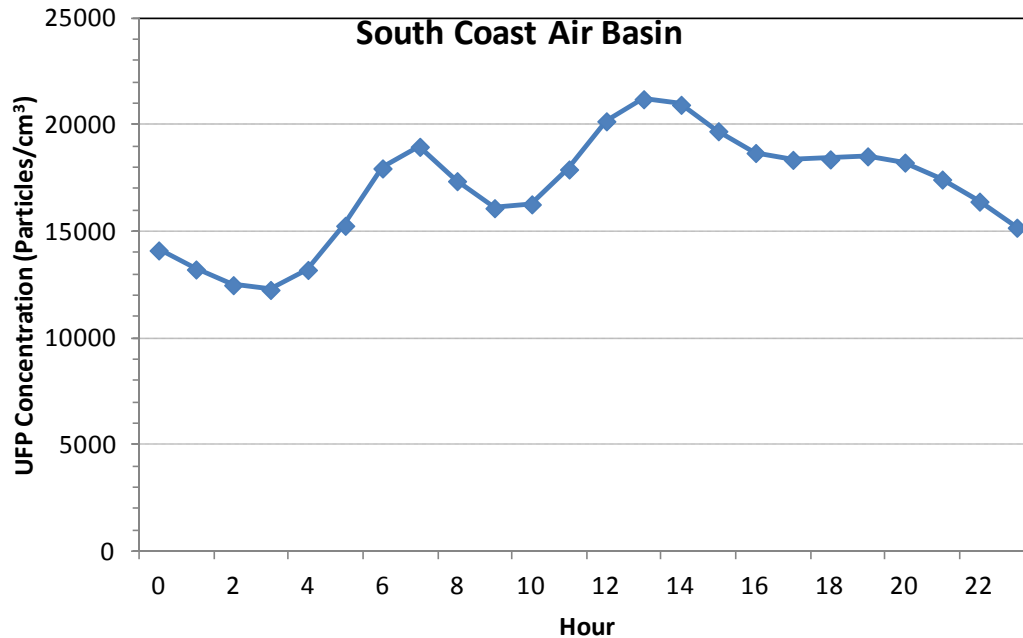


Figure 5-8 - Diurnal Variation in Ultrafine Particle (UFP) Concentration in the South Coast Air Basin During MATES IV

The effect of meteorology on UFP concentration is more evident when comparing average diurnal patterns for different seasons (Figure 5-9). Several factors contribute to the seasonal variability of UFPs. Winters, characterized by stable atmospheric conditions and lower mixing heights, result in elevated UFP levels during morning rush hours and at night (Singh et al. 2006, Wang et al. 2012). Moreover, lower temperatures favor the nucleation/condensation of volatile components of combustion exhaust and, in turn, led to an increase in UFPs. Summer months are typically characterized by a distinct mid-day peak due to increased photochemical activity, which favors particle formation.

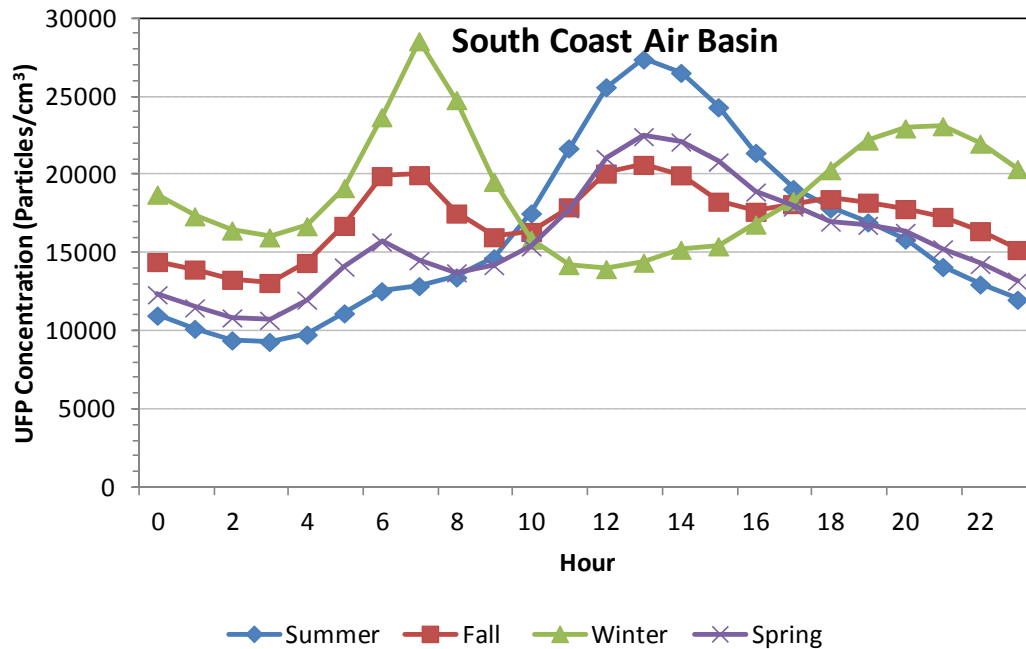


Figure 5-9 - Diurnal Variation of Ultrafine Particle (UFP) Concentration in the South Coast Air Basin During MATES IV.

5.3 Summary for Fixed Sites

Long-term BC and UFP measurements were carried out over a period of one year from July 2012 to June 2013 in a network of 10 sampling sites located in the SCAB. This data was used to characterize the spatial and temporal variations in BC and UFP concentrations and their association with meteorology and local sources.

The morning peak in BC and UFP concentrations observed at most MATES IV sites was probably associated with increased traffic density during rush hours. This effect is particularly pronounced during the colder months, when higher traffic density is coupled with a shallower mixing height. UFPs also exhibit a mid-day peak during the warmer season which is likely to be associated with generation of secondary particles through photochemical processes in the atmosphere.

Seasonal variations in BC and UFP concentrations are mostly related to changes in meteorology. For example, in the wintertime biomass burning smoke may contribute to the observed elevated BC concentrations, and lower temperatures can promote condensation of volatile species and subsequent formation of UFPs.

Various existing regulations and emission reduction strategies are designed to control the atmospheric concentration of BC, either directly by reducing diesel emissions, or indirectly by reducing total PM emissions. Some examples include: (a) promoting regular vehicle emissions testing and retrofitting older diesel powered vehicles and equipment; (b) controlling ship emissions by regulating idling at terminals and mandating fuel standards for ships seeking to dock at port; (c) requiring the use of cleaner fuels; (d) controlling and limiting biomass burning;

(e) requiring permits for operation of industrial, power-generating and oil refining facilities; and (f) promoting filtering and aftertreatment technologies. In most cases, measures to mitigate BC will probably also reduce UFP emissions.

5.4 Local-scale Studies

Programs such as MATES are designed to monitor and characterize toxic emissions over the entire Basin. However, ambient monitoring is necessarily conducted at a limited number of locations, and modeling is limited to a spatial resolution of 2km. For this reason, communities located very near industrial sources or large mobile source facilities (such as marine ports, railyards and commercial airports) can be affected by higher air contaminant levels than cannot be captured in the typical MATES analysis. Near-road monitoring studies and dispersion modeling results for point sources indicate that exposure can vary greatly over distances much shorter than 2 km. The local-scale monitoring program of MATES IV aims to characterize the impacts of large sources on nearby communities by utilizing portable platforms designed to sample for a period of several weeks at selected locations with an emphasis on diesel particulate matter (DPM) and ultrafine particle (UFP) emissions. The studies are designed to assess gradients in ambient pollutant levels within communities as well as provide a comparison to the fixed MATES monitoring sites. The communities chosen for sampling were selected based on proximity to potential sources as well as environmental justice concerns.

To complete these short-term studies, the SCAQMD employed two mobile monitoring platforms (MMP) and/or up to six environmental enclosures (EE) that were specifically designed for fast-response deployment in communities of the Basin. The MMPs integrate multiple monitoring technologies on a mobile platform and are capable of characterizing the atmospheric concentrations of a wide array of particle and gaseous pollutants in real time, including UFPs and BC (measured using a water-based particle counter and a portable Aethalometer, respectively). Similarly, each EE consists of a water-based condensation particle counter (for continuous UFP measurements) and a micro-Aethalometer (for measuring BC in real-time), powered by a portable battery and enclosed inside a rigid synthetic case.

5.4.1 Los Angeles International Airport (LAX)

SCAQMD conducted a series of air quality measurements at the Los Angeles International Airport (LAX) to characterize the atmospheric levels of UFPs and BC downwind of the main runways. Specifically, these local-scale studies were conducted to: (a) delineate local air toxic concentration gradients that might be driven by proximity to the airport; (b) establish if airport-related emissions are distinguishable from those of other potential sources such as nearby traffic from the I-405. These objectives are consistent with the community-scale air monitoring grant program goals of the EPA, which partially funded this deployment.

5.4.1.1 Gradient Study

On 09/11/2012 between 08:00 and 17:00 (PST), UFP and BC measurements were taken at eight different sites east (downwind) of and at different distances from runway 25R (typically used for aircraft take-off) and runway 25L (usually used for landing), as shown in Figure 5-10. Since

most sites were located in highly restricted areas where access was only possible under LAX personnel supervision, only a limited number of measurements were collected for this part of MATES IV. However, the highly resolved one-minute UFP and BC data provided useful information on the local gradients, short-term variations, and potential impacts on local communities. It should be noted that sites 4 and 8 were located 100 and 250 m downwind of the I-405 to evaluate the potential relative contributions of airport and freeway emissions. Lastly, BC measurements were also conducted at a "Community" site, in a highly populated residential area further away from LAX and the I-405. However, all data collected at this last location were invalidated because of unexpected construction activities occurring near this site.



Figure 5-10 - SCAQMD monitoring sites used for the Los Angeles International Airport (LAX) gradient study.

The study average UFP concentrations at sites 1 through 8 were substantially more elevated than the corresponding MATES IV Basin average measured at the 10 fixed sites (Figure 5-10). As expected, the average UFP level peaked at site 1 immediately downwind of runway 25R (where aircraft take-off) and decreased exponentially away from the runway. Interestingly, the average UFP concentrations downwind of runway 25 L (used for landing) followed the opposite trend and increased with increasing distance from the runway (Figure 5-11). This suggests that aircraft landing may also impact the atmospheric levels of UFPs in the area (and possibly communities) east of LAX. Given the short duration of these measurements, it is difficult to assess the full

extent of this impact.

It should be noted that motor-vehicle emissions from the I-405 Freeway may have contributed to increasing the ambient UFP concentrations at site 8. The relative contribution of freeway emissions to the measured UFP levels is difficult to assess with this limited dataset. More information regarding the potential impacts of airport-related emissions on ambient air quality of communities adjacent to the airport is available in the Los Angeles International Airport (LAX) Air Quality and Source Apportionment Study (AQAS).

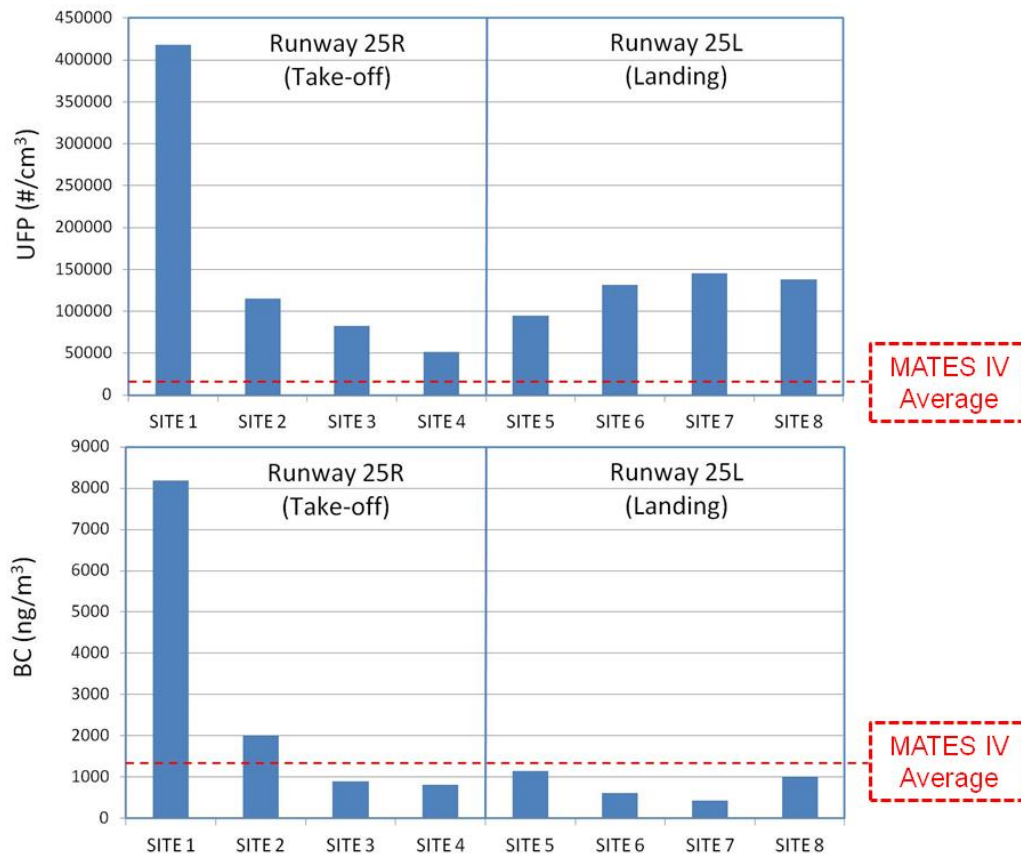


Figure 5-11 - Average UFP and BC levels measured at the eight temporary sites downwind of runway 25R (where aircraft take-off) and runway 25L (typically used for landing).

Similarly, the average concentration of BC downwind of runway 25R peaked at site 1 because of aircraft take-off and decreased steeply moving away from the airport (Figure 5-11). However, while the average BC level at site 1 (8188 ng/m³) was well above what is typically found in urban areas, the ambient concentrations at the remaining downwind sites were close or below the MATES IV BC study average (1313 ng/m³). No evidence of a significant contribution of BC emissions from aircraft landing was found from the data collected downwind of runway 25L.

Site 8 showed slightly higher BC concentrations than those measured closer to the airport, probably because of contributions from the I-405. However, since the traffic volume on this

freeway is dominated by light-duty gasoline vehicles, these contributions are probably not very significant, as confirmed by previous studies conducted in Los Angeles.

5.4.2 San Bernardino Railyard

The San Bernardino Railyard (located in the city of San Bernardino) was selected to further characterize ambient air pollutant levels in the communities surrounding this facility. Railyards are a complex mix of many source types including trains, stationary equipment, terminal operations and on-road vehicles, particularly heavy-duty diesel trucks. A unique set of rapidly deployable mobile air toxics monitoring platforms using the latest technologies for continuous measurements, including both MMPs and EEs, were utilized. A combination of continuous air monitoring and meteorological data is extremely valuable in determining source locations, emission profiles, and exposure variability.

The MMPs were equipped with a condensation particle counter (CPC, model 3785; TSI, Inc.) which measures the number concentration of particles larger than 5 nm in size and up to 10,000,000 particles per cubic centimeter ($\#/cm^3$). A portable Aethalometer (AE22; Magee, Inc.) for real-time measurements of BC was also installed in MMP as an indicator of DPM. EEs were equipped with a condensation particle counter (CPC, model 3781; TSI, Inc.), which monitors number concentrations of particles down to 6 nm in size and up to concentrations of 500,000 ($\#/cm^3$), while BC was measured using micro-Aethalometers (AethLabs). The MMPs and EEs were placed around the San Bernardino Railyard facility as shown in Figure 5-12, to assess potential gradients in exposure as a function of distance from the railyard activities. Measurements were taken between 09/06/2013 to 09/19/2013.

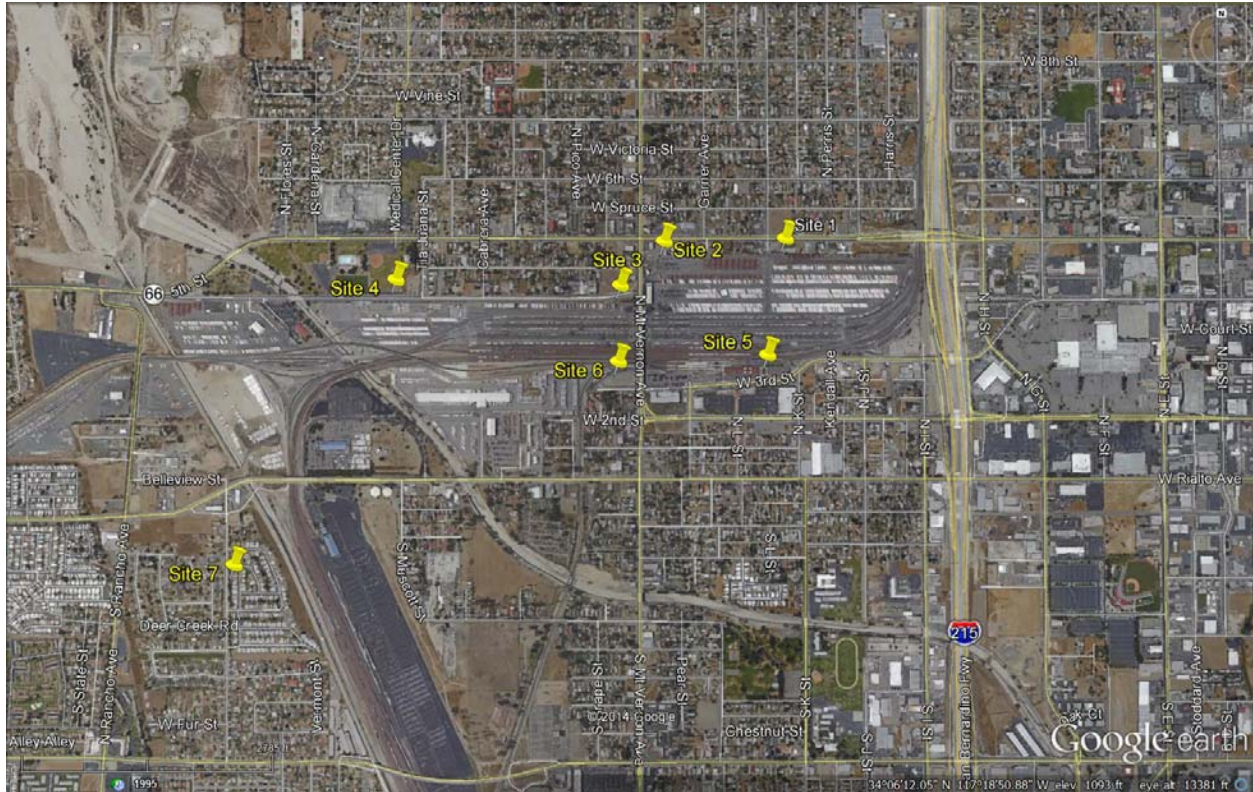


Figure 5-12 - SCAQMD Monitoring Sites for MATES IV San Bernardino Rail yard Microscale Study.

Comparing the levels measured at these local-scale sampling sites to those collected from other fixed MATES IV locations can yield insights as to the magnitude of local impacts. Both BC and UFP concentrations were elevated compared to the MATES IV Basin averages, the annual levels measured at the fixed Inland Valley San Bernardino site, as well as the levels measured at this fixed site during the same period when the local-scale measurements were conducted.

Particularly, the study average BC concentrations at sites 1 through 7 were substantially elevated relative to the corresponding MATES IV Basin average measured at the 10 fixed sites (Figure 5-13). Elevated BC concentrations are expected in vicinity of a rail yard facility due to high traffic activity of heavy-duty vehicles. It should be noted that sites 1, 2 and 3 that are located close to the intersection between Highway 66 and the I-215 Freeway may experience relatively higher heavy-duty diesel traffic. The BC levels were also significantly higher than the annual average BC concentration at the Inland Valley San Bernardino site (1703 ng/m^3), as well as those recorded at the Inland Valley San Bernardino site during the same period as the local-scale study (1564 ng/m^3 between 09/06/2013 and 09/19/2013).

Compared to BC, UFP concentrations are only slightly higher than the MATES IV Basin average concentration (Figure 5-13). Relatively higher UFP concentrations at sites 1, 2 and 3 close to Highway 66 and the I-215 Freeway suggest that the motor-vehicle emissions may have contributed to higher ambient UFP concentrations.



Figure 5-13 - Average UFP and BC levels measured at the seven temporary sites surrounding San Bernardino Railyard.

5.4.3 Mira Loma/CA-60 Freeway

This location was selected to assess the impact of motor-vehicle emissions from the CA-60 Freeway and Etiwanda Ave on a local community. As for the LAX and San Bernardino Railway studies, each EE contained a micro-Aethalometers (AethLabs) and a portable CPC (Model 3781), and each MMP included a Magee portable Aethalometer and a CPC model 3785. Sampling was conducted at six different sites on seven different dates from mid January to early March, 2013. Each sampling period started before pre-morning rush-hour traffic and concluded in mid afternoon. Sites were selected to capture the potential gradients of BC and UFP concentrations in this residential neighborhood. Sites 1, 3 and 4 were located in the residential area, downwind and away from major roads. Site 2 was located at the intersection of two roadways, while sites 5 and 6 were closest to the 60 Freeway (Figure 5-14).

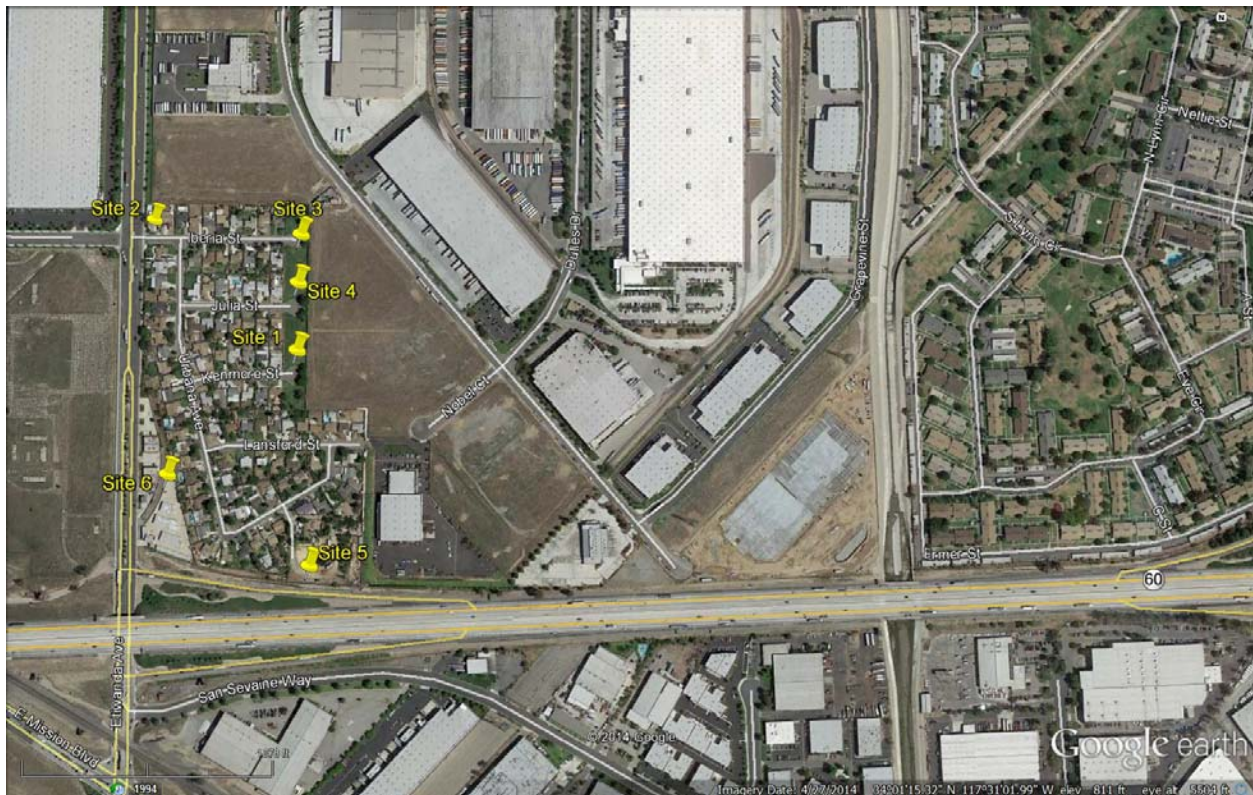


Figure 5-14 - SCAQMD monitoring sites used for the Mira Loma study.

The study average BC and UFP concentrations at all sites was close to or exceeded the corresponding MATES IV Basin average (Figure 5-15), probably due to the intense traffic activity in this industrial area, and the relatively high contributions from heavy-duty diesel trucks. As expected, the average BC and UFP concentrations peaked at sites closer to the 60 Freeway and to major roads (e.g. sites 2, 5 and 6) and decreased substantially away from the freeway (as observed at sites 1, 3 and 4).

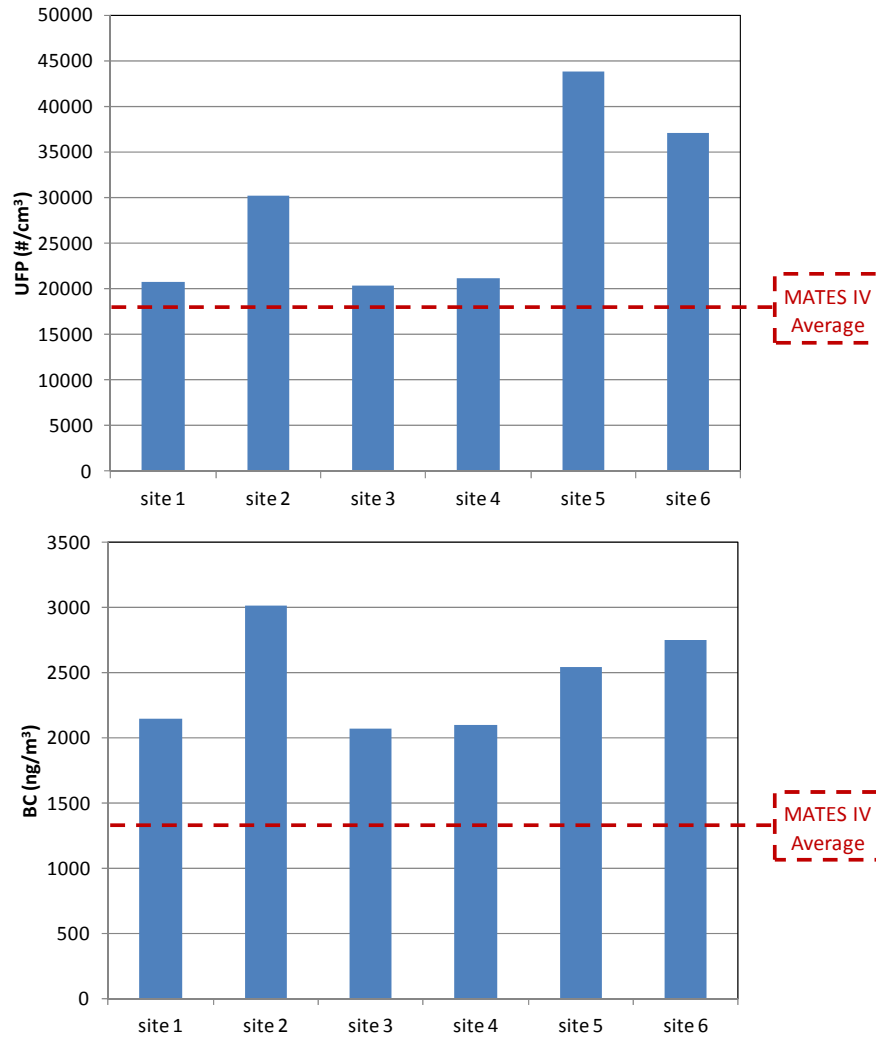


Figure 5-15 - Average UFP and BC levels measured at the six temporary sites in Mira Loma.

CHAPTER 6

FINDINGS AND DISCUSSION

Chapter 6. Findings and Discussion

The MATES IV Study incorporates several updates and improved methodologies compared to previous air toxics studies in the Basin to measure and model ambient levels of air toxics and their associated risks. Key elements and findings are listed below.

6.1. Ambient Monitoring

- Air toxics samples were taken at 10 fixed sites, once every six days, from July, 2012 through July, 2013.

6.2. Air Toxics Modeling

- Updated emissions inventories based on the 2012 year were used, as well as meteorology for 2012.
- An air quality modeling platform, CAMx, was used to estimate levels of air toxics throughout the Basin using the 2012 emissions inventory. The estimates were allocated to a 2 km x 2 km regional grid scale.

6.3. Key Findings

- During the study period, the average Basin cancer risk from air toxics based on the annual average levels calculated from the 10 monitoring sites data was approximately 418 per million. This is about 65% lower than the estimated risk from the 2004-2006 time period.
- Diesel exhaust was the key driver for air toxics risk, accounting for 68% of the total estimated air toxics risk estimated from monitoring.
- None of the annual averages of pollutants measured were above the chronic reference exposure levels (RELS) for noncancer health effects developed by OEHHA.
- Ambient levels of most substances measured were lower compared to that of the MATES III Study, which was conducted in 2004-2006, reflecting the success of various control strategies to reduce exposure to air toxics.
- Diesel PM showed the most dramatic reductions, with the levels found about 70% lower compared to MATES III.
- Benzene and 1,3-butadiene average levels, pollutants mainly from vehicles, were down 35% and 11%, respectively.
- Stationary source-related pollutants, perchloroethylene (an industrial solvent) also showed declines of 53%.
- Hexavalent chromium, which is from mobile as well as stationary sources, was lower by 70%.
- Regional modeling analysis shows the highest risks from air toxics surrounding the port areas, with the highest grid cell risk about 1,000 per million, followed by Central Los Angeles, where there is a major transportation corridor, with grid cell modeled risks

ranging from about 700 to 750 per million.

- Model estimated air toxics risk showed an overall Basin-wide reduction, with the greatest reductions occurring near the ports.
- The Basin-wide estimated population-weighted risk was 57% lower in MATES IV compared to MATES III.
- The spatial distribution of diesel PM_{2.5} emission in MATES IV is similar to the diesel PM emission pattern derived in CalEnviroScreen 2.0, both showing the highest diesel PM emission in Central Los Angeles and area around the Ports.
- Risk estimates in this study do not include mortality from particulate exposure. This was done in the recent update to the AQMP.
- Ultrafine particle measurements at the ten fixed sites revealed that regional ultrafine levels are higher in western areas of the Basin with greater population and traffic density.
- Consistent with previous studies, short-term, local-scale measurements near a rail yard, an airport, and a busy freeway intersection showed higher diesel PM and ultrafine concentrations than the nearest fixed site monitor.
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6.4. Discussion and Policy Implications

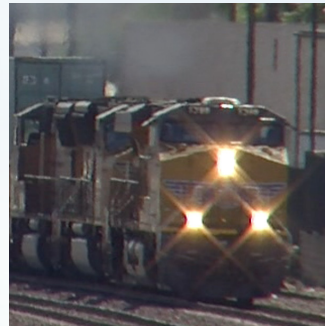
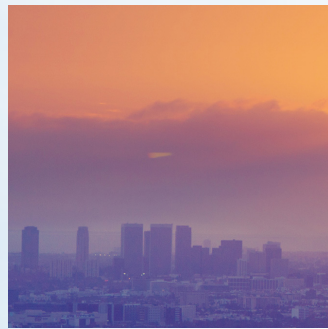
- Although there are uncertainties in the ambient estimates, diesel particulate continues to be the dominant toxic air pollutant based on cancer risk. The study findings therefore clearly indicate a continued focus in reducing diesel emissions.
- Additionally, application of the updated risk estimation methods recently adopted by OEHHA result in about a 2.5-fold increase in inhalation risks from air toxics. Using the updated methods yields estimated lifetime risks near the ports of over 2,500 per million from air toxics.
- Goods movement is a significant source of diesel emissions. With the projected future growth in goods movement, diesel source activity may increase. The interplay between (a) the increase in goods movement and (b) projected emission reduction strategies will be crucial in further decreasing diesel exposures in the future.
- There are several uncertainties in estimating air toxics risks. These include uncertainties in the cancer potencies of the substances, in the estimates of population exposure, and uncertainty in estimating the level of diesel particulate.
- Since the time frame of the MATES III Study, there have been numerous regulations and initiatives to reduce diesel exhaust emissions by local, state and national authorities. These efforts along with those of the ports and private sector organizations have been successful in reducing actual risks from air toxics exposure.
- Although the estimated Basin-wide risks declined from the MATES III period, areas near the ports and near transportation corridors continue to show the highest air toxics risk.

- Many current and future measures designed to meet Air Quality Management Plan goals for PM_{2.5} and ozone will have the additional benefits of reducing air toxic emissions as well as greenhouse gas emissions. The opportunities to achieve co-benefits towards multiple objectives should be maximized in future air quality policies and strategies

DRAFT FINAL APPENDICES

Multiple Air Toxics Exposure Study
in the South Coast Air Basin

MATES-IV



APRIL 2015



**SOUTH COAST
AIR QUALITY MANAGEMENT DISTRICT**

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APPENDIX I

MATES IV

DRAFT FINAL REPORT

List of Substances and Their Associated Risk Factors

Appendix I

List of Substances and their Associated Risk Factors Including Updated OEHHA Methodology (final Column)

Compound	Class	CAS	Acute REL (µg/m3)	8-Hour REL (µg/m3)	Chronic REL (µg/m3)	Previous Unit risk (µg/m3) ⁻¹	Inhalation Slope Fator (mg/kg-day) ⁻¹	Calculated Updated Unit Risk (µg/m3) ⁻¹
Acetaldehyde	Carbonyls	75-07-0	470	300	140	2.7E-06	1.0E-02	6.77E-06
Formaldehyde	Carbonyls	50-00-0	55	9	9	6.0E-06	2.1E-02	1.42E-05
Methyl Ethyl Ketone(2-Butanone)	Carbonyls	78-93-3	13000					
Arsenic	Metal	7440-38-2	0.2	0.015	0.015	3.3E-03	1.2E+01	8.12E-03
Cadmium	Metal	7440-43-9			0.02	4.2E-03	1.5E+01	1.01E-02
Copper	Metal	7440-50-8	100					
Cr+6	Metal	18540-29-9			0.2	1.5E-01	5.1E+02	3.45E-01
Lead	Metal	7439-92-1				1.2E-05	4.2E-02	2.84E-05
Manganese	Metal	7439-96-5		0.17	0.09			
Nickel	Metal	7440-02-0	0.2	0.06	0.014	2.6E-04	9.1E-01	6.16E-04
Selenium	Metal	7782-49-2			20			
Benz(a)anthracene	PAH	56-55-3				1.1E-04	3.9E-01	2.64E-04
Benzo(a)pyrene	PAH	50-32-8				1.1E-03	3.9E+00	2.64E-03
Benzo(b)fluoranthene	PAH	205-99-2				1.1E-04	3.9E-01	2.64E-04
Benzo(k)fluoranthene	PAH	207-08-9				1.1E-04	3.9E-01	2.64E-04
Chrysene	PAH	218-01-9				1.1E-05	3.9E-02	2.64E-05
Dibenz(ah)anthracene	PAH	53-70-3				1.2E-03	4.1E+00	2.77E-03
Indeno(123-cd)pyrene	PAH	193-39-5				1.1E-04	3.9E-01	2.64E-04
Naphthalene	PAH	91-20-3			9	3.4E-05	1.2E-01	8.12E-05
Benzene	VOC	71-43-2	27	3	3	2.9E-05	1.0E-01	6.77E-05
Butadiene, 1,3-	VOC	106-99-0	660	9	2	1.7E-04	6.0E-01	4.06E-04
Carbon Tetrachloride	VOC	56-23-5	1900		40	4.2E-05	1.5E-01	1.01E-04
Chloroethene (Vinyl Chloride)	VOC	75-01-4	180000			7.8E-05	2.7E-01	1.83E-04
Chloroform	VOC	67-66-3	150		300	5.3E-06	1.9E-02	1.29E-05
Dibromoethane,1,2- (Ethylene Dibromide)	VOC	106-93-4			0.8	7.1E-05	2.5E-01	1.69E-04
Dichlorobenzene, p-	VOC	106-46-7			800	1.1E-05	4.0E-02	2.71E-05
Dichloroethane, 1,2- (Ethylene Dichloride)	VOC	107-06-2			400	2.1E-05	7.2E-02	4.87E-05
Ethylbenzene	VOC	100-41-4			2000	2.5E-06	8.7E-03	5.89E-06
Methyl tertiary-butyl ether (MTBE)	VOC	1634-04-4			8000	2.6E-07	1.8E-03	6.09E-07
Methylene Chloride (Dichloromethane)	VOC	75-09-2	14000		400	1.0E-06	3.5E-03	2.37E-06
Perchloroethylene (Tetrachloroethylene)	VOC	127-18-4	20000		35	5.9E-06	2.1E-02	1.42E-05
Styrene	VOC	100-42-5	21000		900			
Toluene	VOC	108-88-3	37000		300			
Trichloroethene	VOC	79-01-6			600	2.0E-06	7.0E-03	4.74E-06
Xylene, m-	VOC	108-38-3	22000		700			
Xylene, o-	VOC	95-47-6	22000		700			
Xylene, p-	VOC	106-42-3	22000		700			
Diesel Particulate Matter		n/a	5			3.0E-04	1.1E+00	7.44E-04

Values from the Consolidated Table of OEHHA/ARB Approved Risk Assessment Health Values available at <http://www.arb.ca.gov/toxics/healthval/healthval.htm>. The Calculated Revised Unit Risk Values were calculated using the updated methodology adopted by OEHHA in February, 2015 assuming an exposure value of 1 µg/m³, 90th percentile breathing rates for age groups up to 2 years and 80th percentile breathing rates for age groups above 2 years, fraction of time at home of 1 for ages up to 16 yrs and 0.73 for age above 16 yrs, and 30 year exposures.

APPENDIX II

MATES IV

DRAFT FINAL REPORT

Technical Advisory Group Members

MATES IV Technical Advisory Group

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Judith Chow	Desert Research Institute
Maria Costantini	Health Effects Institute
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APPENDIX III

MATES IV

DRAFT FINAL REPORT

MATES IV Monitoring and Laboratory Analysis Protocol

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MATES IV

APPENDIX III

MONITORING AND LABORATORY ANALYSIS PROTOCOL

SEPTEMBER 2014

**Science and Technology Advancement
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Chapter 1.0 Introduction

This appendix document provides detailed information about the procedures and processes which were used to conduct the field measurement and laboratory analysis elements of the Multiple Air Toxics Exposure Study IV (MATES IV).

1.1 BACKGROUND

In 1998, the South Coast Air Quality Management District (SCAQMD) conducted an intensive ambient air toxics monitoring program, the Multiple Air Toxics Exposure Study II (MATES II). The objective of MATES II was to establish a baseline of existing air toxics ambient emissions, exposure and risk level data and an assessment of model accuracy. The SCAQMD conducted MATES II over a one-year period at ten sampling sites in the South Coast Air Basin (Basin). The MATES II Final Report was approved by the SCAQMD Board in March 2000¹.

As a follow up study to MATES II, MATES III was conducted from April 2004 through March 2006. The initial scope of the study was for one year, however, due to heavy rains in the first year of the study a second study year was added over concern of atypical meteorology. The MATES III Final Report was published in September 2008².

MATES IV was conducted to build upon prior ambient toxics data sets, evaluate spatial and temporal trends and better understand current risk associated with air toxics in the Basin.

For MATES IV, organic and metal compounds were sampled and analyzed. These compounds are identified in Appendix A. Compounds listed in Appendix A were measured on a routine one-in-six day basis.

Field sampling began July 2012 and continued for one year. This document describes the monitoring, laboratory analysis, quality control (QC), and quality assurance (QA) activities necessary to support the MATES IV program.

¹ South Coast Air Quality Management District (2000). *MATES II Final Report*. Diamond Bar, CA

² South Coast Air Quality Management District (2008). *MATES III Final Report*, Diamond Bar, CA

Chapter 2.0 Monitoring Equipment

2.1 INTRODUCTION

For the purposes of this appendix, the descriptions and operational and maintenance procedures of the following equipment are stated.

TABLE 2-0 MATES IV Samplers

<u>Sampler Type</u>	<u>Vendor and Model Number</u>
Volatile Organic Compounds (VOC)	XonTech 910A/ 912
Metals; Carbonyls, Cr ⁺⁶	XonTech 924
PM _{2.5} Speciation Air Sampling System	Met One Instruments SASS
Wind, Speed, and Direction (WSD)	R.M. Young Mechanical Wind Sensor
PM ₁₀	Graseby-GMW 1200 PM ₁₀ Sampler
Aethalometer	Teledyne API 602
UFP (CPC)	Teledyne TSI 651

The siting, acceptance testing, and calibration functions for each type of equipment identified above are defined below. Non-generic functions are discussed under each equipment heading.

2.2 EQUIPMENT CHARACTERISTICS

2.2.1 Siting

- A) Monitoring site selection criteria was the same for all fixed sites. Site uniformity was achieved to the greatest degree possible. Descriptions have been prepared for all sampling sites and can be found in the annual network plan at www.aqmd.gov/home/library. The description includes, at a minimum, the type of ground surface, the direction, distance, and approximate height to any airflow obstruction, and the direction and distance to any local pollutant sources.
- B) The sampler platform was located in an area with unobstructed airflow, especially in the direction of any recognized sources of the sampled compounds. This is critical since turbulence and eddies from obstructions will cause non-representative results. The distance between an obstruction and the sampler is not to be closer than two times the height of the obstruction.
- C) Locations significantly influenced by nearby pollutant sources, activities potentially impacting air quality or where reactive surfaces may cause chemical changes in the air

sampled were avoided. Micro-meteorological influences caused by nearby hills, bodies of water, valley drainage flow patterns, etc. were considered when selecting a monitoring site.

- D) The recommended intake probe height for criteria pollutants is 3 to 15 meters above ground level as near breathing height as possible with the additional criteria that a site will not be placed where a building is an obstruction or where equipment is easily vandalized.
- E) The probe should extend at least two meters away from the supporting structure. If the probe is located on a building, it must be mounted on the prevailing windward side.

2.2.2 Acceptance Testing

Acceptance testing was performed on all instrumentation and sampling equipment approximately one month after receipt. After acceptance testing was completed and instruments were found to meet acceptance criteria, they were deployed in the field and ambient sampling commenced. Acceptance testing was conducted according to the following steps:

- A) All instruments were carefully unpacked from their shipping containers and checked for completeness, broken parts, and correct subunits.
- B) The units were assembled according to manufacturer guidelines and prepared for start-up.
- C) The flowrate/flow meter portion of the pneumatic system, if any, was checked using the most appropriate calibration-transfer standard to verify the operating flow/flowrate.
- D) Timer accuracy was evaluated by comparing it to an elapsed-timer standard. All timers must hold their accuracy to ± 5 minutes over a 24-hour period.
- E) Any deficiency was corrected and addressed following the manufacturer's recommendations and procedures as stated in the operations manuals.

2.2.3 Calibration

At each sampling site, final dynamic calibrations were performed on each analyzer and sampler prior to the start of the program. At the end of the sampling period, an “As Is” calibration was performed on each analyzer to ascertain the amount of analyzer drift.

2.2.4 Sample Pickup

The SCAQMD Senior Chemist sample custodian distributed the sampling media to the field technician. Filters and carbonyl cartridges were transported in coolers with blue ice and the canisters were kept capped at all times during transportation. Once the filter and carbonyl cartridge were used to collect a sample, they were refrigerated until returned to the SCAQMD Laboratory. The sampling media was returned to the sample custodian as soon as possible following sampling.

2.2.5 Troubleshooting

For instrument usage overlapping the NATTS program usage, the routine maintenance and quality control checks were based on U.S. EPA *Quality Assurance Project Plan for the Air Toxics Monitoring Network* (EPA-454/R-01-007) and U.S. EPA National Air Toxics Trends Station (NATTS) technical assistance document (NATTS TAD, 2009) and are listed in Appendix P. For the instruments that were not present in the NATTS program, a maintenance guide based on the equipment manufacturers’ suggested operating procedures was made available for each instrument. If an instrument fell out of the correct operating range, or if there was a component failure, the operator immediately placed a call to the SCAQMD STA/AM Support and Repair Section to schedule a repair.

2.2.6 Repair

The potential failure of instrument and equipment components such as pumps and flow controllers was addressed by SCAQMD maintaining an inventory of staff replaceable spare parts.

2.3 SAMPLING EQUIPMENT

2.3.1 XonTech 910A and 912

2.3.1.1 XonTech 910A - Description

The XonTech 910A air sampler is designed to take air samples at a constant flow rate for a known sampling period. It is durable, serviceable and accurate making it useful for sampling a wide variety of gases. Its compact, constructed simply, and offers long term reliability.

Specifically, the 910A sampler takes air from the sample inlet and injects it into a canister at a constant flow rate for the preset period of time. Excess air is exhausted through a bypass

exhaust. The constant flow rate and elapsed time allow the operator to calculate the integrated air sample volume. The sample was pumped through a metal bellows pump that develops sufficient pressure to control the flow with a mass flowmeter. The XonTech 910A is operated according to the guidelines set forth in XonTech's *Model 910 Toxic Air Sampler Operations Manual*³.

2.3.1.2 XonTech 912 - Description

The XonTech 912 adapter may be added to the XonTech 910A to enhance sampling capability over a reduced period of time. It cannot operate independent of the 910A. It is designed to route gas samples to a maximum of 16 canisters. An internal time base can be used to step a rotary valve from canister to canister at a user-selected rate. The 912 also accepts timing signals from the model 910A. The XonTech 912 adapter was operated according to the guidelines set forth in XonTech's *Model 910 Toxic Air Sampler Operations Manual*⁴.

2.3.1.3 Pre-Testing

All canister samplers were field tested prior to and during field sampling.

2.3.1.4 Cleanliness Check

To perform a system bias check, ultra-pure air or nitrogen was injected into the sample manifold to fill one, 3-hour canister. Additionally, the 24-hour sampler was tested by maximally increasing its sample flow to fill a canister in approximately 6 hours. A field blank canister was filled at the site by flowing pure air or nitrogen into an evacuated cylinder. A difference of less than 1 part per billion (ppb) per compound between the field blank and the bias test samples is the acceptance criteria for this test and indicates that the system is not contaminated (non-biasing). A value greater than 1 ppb per compound required investigation and corrective action. A system bias check was repeated until all biases are demonstrated to be eliminated. The SCAQMD's Ambient Monitoring Support Group performed system repairs. This group assembled, leak checked, disassembled, and cleaned the sample manifold, and the Auditing Group calibrated the mass flow controller (MFC) for flow.

2.3.1.5 Canister Sample Pickup

An SCAQMD Instrument Specialist picked up clean verified clean silica lined stainless steel canisters from the Laboratory. Evacuated canisters were transported by vehicle to the respective air monitoring stations. Each canister has a tag attached (Appendix F). This tag was completed and contained the following information: sample site, operator initials, and sample date. The air monitoring station operator completed this tag once the canister was set up for sampling. Once the canister is filled and disconnected from the 910A or 912 sampler, and prior to returning the sampled canister to the Laboratory, the canister number, start

³ XonTech, Inc. (1987). *Model 910 Toxic Air Sampler Operations Manual*. Van Nuys, CA.

⁴ Ibid.

vacuum, end pressure (psig), and elapsed time was recorded on the MATES IV sample log (Appendix E). The time on the QC chart was also checked and adjusted. This value must be within ± 10 minutes of actual Local Standard Time. The canister was delivered to the sample custodian in the Laboratory as soon as possible.

2.3.2 XonTech 924

2.3.2.1 Description

The Model 924 Toxic Air Samplers are designed to collect ambient air particulate samples on a variety of filter materials and sorbent media in unattended field use. These samples were brought to the SCAQMD headquarters for Laboratory analysis. The sampler precisely controls the sampling time and flowrate through each sampling head using a microprocessor and mass flow controller (MFC). Sampler design is modular to facilitate installation of individual sampling channels. Each sampler may accommodate eight sampling channels for two types of sample collection media: one that accepts 37 or 47 millimeter filters and another that accepts sorbent tubes.

The sampler consists of three modules, each contained in a separate enclosure. The heart of the system is the control module. This module contains the microprocessor, controller, mass-flow controllers, and front panel, displays, printer, and keypad. The difference between the Model 920 and 924 is the electronics have been upgraded to reflect the increase in microprocessor functionality presently available that was not available in the circa 1995 Model 920. The sampling module is equipped with isolation valves that protect the sampling media from passive sampling before or after sampling or sample loss after sampling. The sampling inlet height is 1.2 meters above ground level. The third element of the sampler is the pump module. It contains the vacuum pump that provides adequate capacity for simultaneous operation of three, 30 liters per minute (lpm) and 200 cubic centimeters per minute (ccm) sampling channels.

2.3.2.2 Operation

To use the sampler, the operator inserted the sample filter cassette or sorbent tube into the sampling head and keyed in the filter or sorbent head number. Start and stop times, and flow rates are pre-programmed or can be manually input. Following the sampling period, a report is automatically printed which was removed from the printer and submitted to the Laboratory with the filter for analysis.

The XonTech 924 samples carbonyl compounds for an integrated 24-hour period only. Warm and cold-start options as well as all other operational specifications are discussed in XonTech, Inc. *Model 924 Toxic Air Sampler Operations Manual*⁵ and SCAQMD SOP 00094, *RM Environmental Systems Inc. (RMESI) 924 Toxics Sampler*.

⁵ XonTech, Inc. (1987). *Model 924 Toxic Air Sampler Operations Manual*. Van Nuys, CA.

2.3.3 MET One SASS

2.3.3.1 Description

The MET One Speciation Air Sampling System (SASS) accommodates up to five sampling canisters which may hold multiple 47 millimeter filters to capture PM_{2.5} particles. The PM_{2.5} separation is produced by a sharp cut cyclone (SCC) that removes both solid and liquid coarse particles. Particle penetration through the SCC mimics the PM_{2.5} cutoff curve of the WINS impactor as defined by the U.S. Environmental Protection Agency. All routine maintenance can be done in the field. Filter containers are transported to the Laboratory for inspection, cleaning and unloading/loading of sampling substrates. Every element of the sampler contacted by the sampled air stream ahead of the filter, including the inlet can be cleaned with each sample change. The SASS was designed with individual sharp cut cyclone inlets. Particles larger than 2.5 micron aerodynamic diameter are removed by the cyclonic inlet mounted with each filter container. The filter containers may be equipped with a diffusion denuder ahead of the filter to remove selected gaseous compounds⁶.

2.3.3.2 Module and Media Description

The integrated SASS canister contains the following components: a sharp cut cyclone, a denuder to remove nitric acid or ammonia gases, a 47 mm front filter for particle capture, a 47 mm tandem or backup filter as needed, and a cover to protect the components.

Several types of filter media are needed for assaying the different chemical constituents of ambient particles. The chosen filter media are suitable for the type of analysis to be conducted. For example, Teflon filters were used for gravimetric mass and trace metal determinations. Quartz fiber filters were used for elemental and organic carbon analysis as well as anions and cations analysis.

2.3.4 R.M. Young Mechanical Wind Sensor

2.3.4.1 Description

The R.M. Young Mechanical Wind Sensor is used to measure wind speed and direction (WSD) data. The performance specifications of this wind system are delineated in Table 2-1. Data is stored in a data logger until it is telemetered to the SCAQMD's information system.

For a complete description of anemometer operations, refer to *R.M. Young AQ Wind Monitor User Manual and Product Specification*⁷.

⁶ MET One Instruments, Inc. (2001), *Model SASS & SuperSASS PM_{2.5} Ambient Chemical Speciation Samplers*, Grants Pass, Oregon.

⁷ R.M. Young Company. *SAQ Wind Monitor User Manual (05305) and Product Specification*
<http://www.youngusa.com/products/7/6.html>

TABLE 2-1 Performance Specifications - R.M. Young Mechanical Wind Sensor

<u>Wind Speed</u>	<u>Wind Direction</u>
1. Starting Threshold 0 mph	0 degrees
2. Range 0-112 mph	0-360 degrees
3. Accuracy $\pm 1\%$	± 3 degrees

2.3.4.2 Siting

WSD measurement, barometric pressure, relative humidity, and temperature monitoring equipment were housed in monitoring stations. The stations meet Environmental Protection Agency (EPA) criteria for National Air Monitoring Stations (NAMS) and State and Local Air Monitoring Stations (SLAMS) as cited in part 40 Code of Federal Register (CFR) Part 58.

When the meteorological equipment was located at a permanent air monitoring station, it was installed on a 10-meter tower in an unobstructed position. When the equipment was installed in a mobile platform, it was mounted on a 6.1-meter mast.

2.3.4.3 Installation

WSD equipment was assembled and oriented according to the manufacturer's instructions. The manufacturer's manuals are used as the primary installation guide.

Once the WSD monitoring equipment was assembled, mounted on the mast, and raised to its full height in the correct orientation, the direction sensor was aligned to true north using a true-north-calibrated compass. Although alignment was performed from a distance, accuracy within five degrees was achieved and is considered acceptable.

2.3.4.4 Telemetry Interfacing

At each fixed monitoring site an existing telemetry system was used to transfer WSD data from the station to the SCAQMD central computer.

2.3.4.5 Routine Servicing

The air quality instrument specialist responsible for each monitoring site performed routine servicing and periodic checks of the WSD system, barometric pressure, relative humidity, and temperature. The instrument specialist also noted and initialed the type of service performed and the results of each periodic check in the system's logbook, and on the WSD Monthly Quality Control Maintenance Sheet (Appendix C).

Any suspected operational problem were communicated in detail by the instrument specialist to the appropriate supervisor. The supervisor, when informed of the problem,

contacted the station operator to determine if the problem could be corrected in-house. If the problem could not be corrected in-house, the supervisor arranged for a replacement of the WSD system. Anemometer servicing was conducted as described below.

A) Weekly Checks

The mechanical anemometer, barometric pressure, and temperature were checked for daily trends as an indication of acceptable operation.

B) Monthly Checks

The mechanical anemometer was lowered from the tower and visually checked, relative humidity and temperature aspirators were cleaned as necessary. The mounting of all three sensors was checked to verify they were securely attached.

2.3.4.6 Calibration

The RM Young Model 05305VP/101283-G2 Wind Monitor-AQ type wind speed and wind direction sensors are calibrated at the factory before receipt. Prior to the deployment of the sensor to the field, an initial calibration check was performed. Field calibrations were performed annually and/or immediately after sensor repair (bearing replacement), rewiring or replacement of the sensor per Draft SOP00070, October, 2011.

2.3.4.7 Data Handling

All data generated from the WSD system was stored in a data logger before being transmitted to SCAQMD headquarters. Data was also recorded on an electronic strip chart recorder on site. During site visits any maintenance or repair work was noted on the strip chart. Strip chart data is uploaded to the SCAQMD quarterly.

2.3.5 Graseby-GMW 1200 PM₁₀ Sampler

2.3.5.1 Description

The Graseby-GMW Model 1200 two-stage, size-selective inlet (SSI) head sampler is used to sample particulates with an aerodynamic diameter of 10 microns and less at Pico Rivera, Compton, Huntington Park and the Hudson school site in Long Beach. The inlet head is symmetrical and therefore insensitive to wind direction and relatively insensitive to wind speed. The air is drawn through the acceleration nozzles at 40 cfm. Particles larger than 10 microns (aerodynamic diameter) pass through the nozzle and are deposited onto the flat surface below the nozzles. The air sample is then drawn through vent tubes, the second-stage fractionator, and the filter where particulate matter is collected. The height of the vent-tube inlets above the acceleration nozzle plate prevents re-suspension and transport of particles.

The PM₁₀ sampler draws air into a specially shaped inlet at a flowrate of 40 ±4 cubic feet per minute (cfm). PM₁₀ particulate matter collects on an 8 x 10 inch matted quartz fiber filter. The concentration of PM₁₀ particulate matter (in micrograms per cubic meter) is

calculated by weighing the particulates collected on the filter and dividing by the measured air sample volume. The standard sampling frequency is every sixth day.

To initiate sampler start-up, the operator completes a PM₁₀ sampler site report and sends it to the appropriate SCAQMD supervisor for review using the criteria of compliance with SLAMS total suspended particulates (TSP) siting as stated in 40 CFR Part 58, Appendix E. The PM₁₀ sampler may be calibrated according to Appendix A, Section A.5.9 of the SCAQMD's *Quality Assurance Plan for Air Monitoring*⁸.

The matted, quartz-fiber filter is very delicate and can be easily torn or gouged. Because a damaged filter invalidated results, it was important to carefully handle it by the edges. Complete operational details are contained in *Instruction and Operation Manual High Volume PM₁₀ Sampler*⁹.

2.3.6 Black Carbon as Measured Using an Aethalometer

The term soot often refers to impure carbon particles resulting from the incomplete combustion of fossil fuels and various types of biomass burning. Soot is a key component of atmospheric aerosols because of its strong ability to absorb solar radiation, causing a warming effect on global and regional climate. Soot is also of interest because of its potential adverse health effects.

Various analytical methods have been developed to quantify the concentration of atmospheric soot particles. Depending on the measurement method used, the non-Organic Carbon fraction of soot is referred to as Black Carbon (BC) or Elemental Carbon (EC). While BC is an "optical term" that is used to denote strong light-absorbing carbon, EC is a "chemical term" that refers to thermally-refractory carbon with a graphite-like structure. Thus, BC and EC are two methodologically defined species that are typically measured using optical (summarized here and described in greater detail in Appendix VI) and thermal-optical methods (described in section 3.3 of this Appendix), respectively.

BC Measurements

The Aethalometer® (developed by Magee Scientific, Berkeley, CA) is an instrument that uses optical analysis to determine the mass concentration of BC particles collected from an air stream passing through a filter. Aethalometers are the most common instruments used to measure BC in real time. The principal and working of the Aethalometer are described in detail elsewhere [Hansen et al., 1984]. Briefly, the gas stream (frequently ambient air) passes through a filter material which traps the suspended particulates, creating a deposit of increasing density. A light beam projected through the deposit is attenuated by those particles which are absorbing ('black') rather than scattering ('white'). Measurements are made at successive regular time intervals. The increase in attenuation from one measurement to the next is proportional to the increase in the density of optically absorbing material on the filter. This, in turn, is proportional to the concentration of the material in the sampled air stream. The sample is collected as a spot on a roll of filter tape. When the density of the deposit spot reaches a pre-set limit, the tape advances

⁸ Applied Science & Technology. (1996). *Quality Assurance Plan For Air Monitoring*. Diamond Bar, CA: South Coast Air Quality Management District.

⁹ Graseby Anderson. (1988). *Instruction and Operation Manual High Volume PM₁₀ Sampler*. Atlanta, GA.

to a fresh spot and the measurements continue. Measurement of the sample gas flow rate and knowledge of the instrument's optical and mechanical characteristics permit a calculation of the average concentration of absorbing particles in the gas stream during the sampling period. Aethalometers may operate on time-base periods as rapid as 1 second, providing quasi-real-time data. One minute to one hour averages are commonly used in most field applications. Comparison of aethalometer data with other physical and chemical analyses allows the output to be expressed as a concentration of BC. A more detailed description of the Magee Scientific Aethalometer along with monitoring results can be found in Appendix VI.

2.3.7 Ultra Fine Particulate (UFP)

Ultrafine Particles (UFPs) are typically defined as particles with an aerodynamic diameter less than 100 nm. UFPs are emitted from both natural and anthropogenic sources, although in most urban environments vehicular fossil fuel combustion constitutes the major contributing source. The terms UFPs and nanoparticles (NP; diameter < 0.05 μm) are often used interchangeably, and the definitions of each generally vary with the study or application. While fine particulate matter ($\text{PM}_{2.5}$) dominates the mass distribution of atmospheric particles, UFPs account for about 90% of the total particle number. For this reason, their concentration is usually expressed in terms of total particle count (i.e. # per cubic centimeter of sampled air, or $\#/ \text{cm}^3$), even though a small fraction of the particles being counted may be above 100 nm.

Condensation Particle Counters (CPCs) are instruments that provide the total number concentration of particles above a lower size limit (~3-20 nm, depending on make and model) in real-time. By means of CPCs, UFPs are grown through condensation in a controlled supersaturation environment to larger sizes and then measured/counted using a photodetector. Although CPCs are the most widely used instruments in most applications, they do not provide any information on the original size of the particles counted.

UFP Measurements

The CPC used to measure the ambient number concentration of UFPs at the ten fixed MATES IV sites is commercialized by Teledyne Advanced Pollution Instrumentation PI (Teledyne API, San Diego, CA). This particular model (651) was specifically designed for network operation and its performance was thoroughly evaluated by SCAQMD Staff prior to the beginning of MATES IV. The Teledyne 651 CPC utilizes a patented laminar-flow, water-based condensation growth technique. Particles which are too small (nanometer scale) to scatter enough light to be detected by conventional optics are grown to a larger size by condensing water on them. An air sample is continuously drawn through the CPC inlet via an external pump and a portion of the flow is sent to the exhaust as bypass flow. The aerosol sample is pulled through a cool region saturated with water vapor and its temperature is equilibrated. The sample then passes to a growth section where wetted walls are heated to produce an elevated vapor pressure resulting in a thermodynamic "supersaturation" condition. The small cool particles in the flow stream act as nuclei for condensation, and grow into micron sized droplets. The droplets are passed through a laser beam and create a large light pulse. Every particle pulse event is detected and counted. In this technique particle concentration is measured by counting every individual particle in the air stream. The CPC model 651 is able to detect particles as small as 7 nm in diameter and has a

detection range between 0 and 1,000,000 #/cm³. A more detailed discussion of the Teledyne 651 CPC monitoring results can be found in Appendix VI.

2.3.8 Polycyclic Aromatic Hydrocarbons (PAH)

Polycyclic Aromatic Hydrocarbons (PAHs) on polyurethane foam (PUF) sampling media were analyzed by Eastern Research Group (ERG), Morrisville, North Carolina. Sampling was performed by SCAQMD staff of Instrument Technicians and Laboratory Technicians. Chain of Custody was maintained from receipt of sampling materials received from ERG through the return of the samples for analysis. SCAQMD staff was responsible for calibration, calculating and reporting of the total air volume of each sample. This included calibration of the sampling instrument flow rate. A short method description is given in Appendix L.

Chapter 3.0 Laboratory Procedures

3.1 INTRODUCTION

Since 1994, the SCAQMD has implemented the U.S. EPA Photochemical Assessment Monitoring Stations (PAMS) program to gather data on ozone precursors. In 2008 the National Air Toxics Trends Stations (NATTS) was implemented in the South Coast Air Basin. Some of the same sampling instruments currently used in the PAMS and NATTS programs were used in MATES IV. Hence, many of the procedures and protocols for the MATES IV program were based on the SCAQMD *Quality Management Plan for Environmental Measurement Programs*¹⁰ (January 2009), QAPP, Chemical Speciation of PM_{2.5} Filter Samples (2005), and National Air Toxics Trends Stations Technical Assistance Document (NATTS TAD, 2009). However, MATES IV also utilizes several analytical methods not performed under the federal programs and the protocols included herein are based upon manufacturer's measurement and quality control procedures that are intended to ensure that the data quality is suitable for the intended purposes of MATES IV.

The SCAQMD utilized Air Quality Instrument Specialists to collect field samples and deliver them to the Laboratory sample custodian. The Laboratory sample custodian handled logging and distribution within the SCAQMD Laboratory. Procedures for proper sampling and initial chain-of-custody are outlined in the SCAQMD *PAMS Air Monitoring Network Quality Assurance Plan*¹¹, Section 7E Parts 1 and 2.

3.2 SAMPLE HANDLING

All sampling media were handled according to the Laboratory practice for implementation of toxics analysis and particulate matter network programs, as applicable. Field instrument specialists completed the sampling information and chain-of-custody forms¹², and delivered the samples to the Laboratory sample custodian.

3.2.1 Canister Cleaning

The SCAQMD Laboratory has a canister cleaning oven system. Per SOP00091 entitled "Canister Cleaning System (CCS) Ovens 3 & 4 Toxics," these systems utilize humidified nitrogen to flush and clean canisters in a heated oven to less than 5 ppb carbon of total organic compounds. The canisters are held at 80°C and are flushed a minimum of seven times over a 2 ½ -hour period. Every canister is removed from the canister cleaning oven and analyzed for residual hydrocarbons. Data collected in performance of SOP00091 demonstrates the cleaning procedures satisfy cleanliness requirements and long-term experience has proven that the

¹⁰ Applied Science & Technology. (2009). *Quality Management Plan for Environmental Measurement Programs*. Diamond Bar, CA: South Coast Air Quality Management District.

¹¹ Applied Science & Technology. (1992). *PAMS Air Monitoring Network Quality Assurance Plan*. Diamond Bar, CA: South Coast Air Quality Management District.

¹² These forms consist of the Size-Selective Inlet PM₁₀ Sampler Envelope (Appendix B), MATES IV Sample Log (Appendix E), and VOC Canister Tag (Appendix F).

canister-cleaning oven system is sufficient to provide clean canisters. Any hydrocarbons (above the threshold concentrations) found in canister trigger investigation and corrective action. All canisters (8) in the batch are re-cleaned and tested again to assure they meet cleanliness requirements. The cleaning date and operator are noted on the canister tag and in an electronic database that serves as the primary chain-of-custody.

3.2.2 Field Canister Use

Canisters were transported by the instrument specialist to the site and installed in accordance with the sampling SOP00080 included in the *PAMS Air Monitoring Network Quality Assurance Plan*. Once the sample was taken and the sample time, canister number, and start and stop vacuum were noted on the MATES IV Sample Log (Appendix E) that accompanied the canister starting with sample collection. All samples were promptly returned to the Laboratory for log-in and distribution to the appropriate Senior AQ Chemist.

3.2.3 Sample Distribution in the Laboratory

The Laboratory sample custodian (Senior Chemist) logs in received samples and distributes them to the appropriate AQ Chemist following established Laboratory procedures. The sample custodian distributed samples to Laboratory personnel starting with the responsible Senior AQ Chemist.

3.3 ANALYSIS METHODS – APPENDIX A COMPOUNDS

Gaseous compounds listed in Appendix A were analyzed using gas chromatography with mass spectrometry and flame ionization detection (FID) after cryo-focusing. This technique provides for instrument sensitivity sufficient for meeting MATES IV measurement criteria. The method generally follows the EPA Method TO-15; *Determination of Volatile Organic Compounds (VOCs) in Specially Prepared Canisters and Analyzed by Gas Chromatography/Mass Spectrometry (GC/MS)*, as found in SCAQMD SOP0008B. Carbonyl analysis was conducted using EPA Method TO-11, *Determination of Formaldehyde in Ambient Air Using Adsorbent Cartridge Followed by High Pressure Liquid Chromatography*. These methods are detailed in the EPA *Compendium of Methods for the Determination of Toxic Organic Compounds*¹³ and SCAQMD SOP0006. A short method description for sampling and analysis of VOCs by GC/MS can be found in Appendix K.

¹³ Winberry, William, Murphy, Norma & Riggan, R.M. (1988). *Compendium of Methods for the Determination of Toxic Organic Compounds in Ambient Air*. Research Triangle Park, NC: Quality Assurance Division, Environmental Monitoring Systems Laboratory, Office of Research and Development, US Environmental Protection Agency. (EPA-600/4-84-041)

Carbonyl measurements were performed using the NATTS sampling and analysis methodology delineated in the NATTS TAD (2009). The California Air Resources Board (CARB) toxic network design method was followed using the XonTech 924 with a carbonyl channel. A potassium-iodide-coated ozone denuder was also used in all carbonyl samplers. Waters[®] silica gel cartridge impregnated with dinitrophenyl hydrazine was used to sample for carbonyl compounds. A short method description for the carbonyl sampling and analysis can be found in SOP #00094 and in Appendix G.

Metals collected on Teflon filters using XonTech 924 samplers were analyzed by Energy Dispersive X-ray Fluorescence (XRF) following the procedure found in SCAQMD SOP00004 *Standard Operating Procedure for the Analysis of PM_{2.5} Filter Samples by Energy Dispersive X-Ray Fluorescence Spectrometry*. For PM_{2.5} samples, a Teflon filter was also used, and XRF was used for metals analysis. A short method description for sampling and analysis of elements by XRF is attached to this document as Appendix H. Filters were also analyzed by ICP/MS following the procedure found in SCAQMD SOP#00005, *The Determination of Metals in Ambient Particulate Matter by Inductively Coupled Plasma Mass Spectrometry (ICP/MS)*, March 9, 2010.

Hexavalent chromium in ambient air is measured by collecting total suspended particulate matter on 37-mm cellulose filters impregnated with 0.12M sodium bicarbonate solution using the Xontech 924 Toxic Air Sampler. The samples were analyzed by a Dionex[®] ion chromatograph (IC) equipped with a UV-Vis detector. Hexavalent chromium is detected at 530 nm after a post-column derivatization reaction with diphenylcarbazide. The method description for hexavalent chromium sampling and analysis is found in Appendix M.

Particulate filter samples for both PM₁₀ and PM_{2.5} were analyzed for metals, ions, total mass, organic carbon (OC), elemental carbon(EC), and total carbon (TC). The procedure for mass and ion determinations follows the methodology used in support of the SCAQMD (federally recognized) PM₁₀ Network activity. Analysis for EC, OC and TC of the PM₁₀ and PM_{2.5} filter samples was analyzed using the Interagency Monitoring of Protected Visual Environments A (IMPROVE A) method. The method evolves carbon from filters by heating and optically monitors carbon as it is evolved from the filter. After catalysts oxidize then reduce the carbon, it is measured by a flame ionization detector. A more detailed description of the IMPROVE A method can be found in Appendix J.

The compounds listed in Appendix A were sampled on a one-day-in-six sampling schedule synchronized with the national PM₁₀ and PM_{2.5} network schedules. These samples were integrated 24-hour samples. SCAQMD personnel conducted both the sampling and analysis. Contract Instrument Technicians and Chemists assisted SCAQMD employees.

Some of the compounds listed in Appendix A do not have consensus methods of analysis; however, ASTM International or American Industrial Hygiene Laboratory test methods and test methodologies were followed or adapted as needed.

3.4 SAMPLING SCHEDULE

MATES IV sampling was conducted on the same schedule as used by the air-monitoring network. The air monitoring network sampling schedule can be found on the U.S. EPA website at; www.epa.gov/tmn/amtic , and follows a six-day monitoring schedule for TSP, Pb, PM₁₀, PM_{2.5} and VOCs. This sampling schedule has several benefits:

- 1) Data from MATES IV can be correlated with ambient data taken on the same day.
- 2) Additional staff time to service and maintain MATES IV sampling equipment and instrumentation was minimized.
- 3) Sample set-up, retrieval, and delivery time to the Laboratory was minimized.

3.5 COMPARISON OF ICP/MS TO XRF

For MATES IV, in addition to the use of XRF for the analysis of ambient metals collected on filters; Inductively Coupled Plasma Mass Spectrometry (ICP/MS) was also employed. While both the XRF and ICP/MS instruments are designed for metals analysis, the principals of analysis are vastly different. In short, XRF is a whole sample non-destructive technique requiring no sample preparation. ICP/MS, however, requires a vigorous acid extraction process prior to analysis. A more detailed of these methods can be found in Appendix N along with charts for selected metals comparing analytical results.

3.6 NICKEL ANALYSIS BY ICP/MS

Nickel overestimation by ICP/MS was determined to be caused by the ubiquitous and proportionally very high concentration of Calcium and Sodium which form interfering molecular ions in the plasma. The subsequent correction for Ni by changing the isotope of acquisition to 58 Amu from 60 Amu is described in Appendix O.

Chapter 4 Quality Assurance and Quality Control

4.1 INTRODUCTION

To achieve the maximum data quality in the MATES IV program, SCAQMD implemented the following Quality Assurance/Quality Control (QA/QC) plan. This Chapter contains the objectives, procedures, documentation, and data review techniques that were used by the SCAQMD to assure that MATES IV produced data that met or exceeded the accepted criteria for its intended use as described below.

4.2 OBJECTIVES

There were two major objectives for the MATES IV Quality Assurance Project Plan. These objectives were: (1) to provide one year MATES IV monitoring which would meet SCAQMD data requirements for accuracy and precision to serve as inputs to accepted risk assessment model(s) and comparisons to other air toxics measurements and (2); to provide time and spatially resolved comparison of black carbon and ultrafine particle concentrations. Thus MATES IV provides data that meets the measurement objectives (MQOs) displayed in Table 4-1. Where practicable, MATES IV MQOs were designed to meet or exceed U.S. EPA Monitoring Programs MQOs such as NATTS and PM_{2.5} Speciation for comparability to other national air toxics monitoring data, including historical SCAQMD NATTS and PM_{2.5} speciation data. Measurements not present in the Federal programs such as black carbon and ultrafine particles, are not intended to directly calculate risk. They serve as real time indicators of pollution for comparison over time and space and thus have MQOs that are appropriate.

TABLE 4-1 Measurement Quality Objectives

ASSESSMENT	MEASURES	PROCEDURE	CRITERIA/PARAMETER			
			VOCs	Carbonyls	PM ₁₀	PM _{2.5}
Accuracy	Percent Deviation from True Value	Audits	± 25%	± 25 %	± 10%	± 10%
	95% Probability Limits		< 30%	< 30%	< 15%	< 15%
Precision	Percent Deviation from True Value	Collocation	± 25%	± 25%	< 10%	< 10%
	95% Probability Limits		< 30%	< 30%	< 15 %	< 15 %
Completeness	Percent of Valid Data		85%	75%	90%	90%

4.3 PROCEDURES

4.3.1 Quality Assurance Procedures

The SCAQMD is one of the four Primary Quality Assurance Organizations (PQAO) responsible for air monitoring in California, and is committed to achieving the highest possible data quality level in the MATES IV programs. The Quality Management Plan (QMP), which is the foundation document for ensuring high quality and defensible data (approved in 2009) presents SCAQMD quality system and describes the organizational structure, functional responsibilities

of management and staff, lines of authority, and general methodology for assessing all activities conducted in support of air monitoring and analysis, air quality assessment and other environmental measurement activities conducted by the agency.

The quality goals and QA requirements for the particle and gaseous pollutants measured during MATES IV are found in various Quality Assurance Project Plan (QAPP) documents as outlined in the following paragraphs. These QAPPs also describe the responsibilities within the organization for carrying out each program and meeting specific QA/QC objectives. They address the Data Quality Objectives (DQOs) of accuracy, bias, comparability, completeness, detectability and representativeness, list the Method Quality Objectives (MQOs) of precision, bias, completeness, sensitivity and, where applicable, flow rate accuracy for the analytes of interest. They document the Standard Operating Procedures (SOPs) and Operational Assistance Guides (OAGs) which are directions for specific performing measurement activities. Finally, they list the required QA/QC requirement for each activity and provide instructions for data review, QA oversight, and corrective actions.

The quality goals and QA requirements (with the exception of siting) for monitoring ambient levels of volatile organic compounds (VOCs), carbonyls, hexavalent chromium, and polycyclic aromatic hydrocarbons (PAHs) were adopted from the US EPA National Air Toxics Trends Stations (NATTS) program. These requirements can be found in the SCAQMD NATTS QAPP, which was last revised in 2013 and is currently under review by the US EPA Region 9.

The quality goals and QA requirements (with the exception of siting) for monitoring the main components of fine particulate matter (PM_{2.5}) including Organic and Elemental Carbon (OC/EC), Anion and Cations, and trace metals were adopted from the US EPA Chemical Speciation Network (CSN) program. These requirements can be found in the SCAQMD PM_{2.5} Speciation QAPP, which was last revised in 2013 and was approved by the US EPA Region 9 in 2014.

The quality goals and QA requirements (with the exception of siting) for monitoring fine and coarse PM (PM_{2.5} and PM₁₀ FRM) were adopted from the US EPA Criteria Pollutant Monitoring Program. These requirements can be found in the SCAQMD Criteria Pollutant Monitoring Program QAPP, which was last revised in 2012 and approved by the US EPA Region 9 in 2013.

The quality goals and QA requirements (with the exception of siting) for monitoring ultrafine particles (UFPs) and black carbon (BC) can be found in the SCAQMD Special Monitoring Program QAPP, which also describes the protocols and procedures followed by SCAQMD for monitoring other "non-criteria" pollutants and performing short-term measurement studies similar to those conducted during MATES IV (see Chapter 5 for details). The current version of this QAPP was last revised in 2013 and is currently awaiting approval by the US EPA Region 9.

The SCAQMD objectives, procedures, documentation, and data review techniques assure the MATES IV program will produce data that are accurate, precise, reliable and legally defensible. The technical procedures for QA/QC include annual system audits on all equipment in the laboratory and at all MATES sampling sites. Quality control procedures also include proper

record keeping, standard checks, routine calibrations of the sampling and analytical equipment, and collecting collocated samples at regular intervals and are described in the next section.

4.3.2 Quality Control Procedures

The SCAQMD performed annual flow audits on all PM₁₀ and PM_{2.5} samplers. These flow audits were conducted according to the procedures outlined in the SCAQMD's *Quality Assurance Plan for Ambient Monitoring, Appendix K*. In addition, the California Air Resources Board (CARB) performs quarterly audits of flows at District air monitoring stations. The CARB also annually audits laboratory systems related to mass measurement in the PM_{2.5} and PM₁₀ networks. The EPA and CARB annually audits the performance of the SCAQMD Laboratory for VOCs, carbonyls and lead (Pb) using the EPA's National Performance Audit Program and the CARB's toxic VOC performance audit.

A) Field Checks

SCAQMD staff performed a number of activities concurrent with conducting field checks. Specifically, staff:

- 1) observed and recorded all required data for each sampler's monthly maintenance sheet, chain-of-custody form, and sample identification tag
- 2) checked and reset all timers if off by more than ± 5 minutes Local Standard Time
- 3) checked and adjusted the flow settings if they are not within $\pm 5\%$ of the calibrated setting

B) Laboratory Daily Checks

SCAQMD staff monitored the PM 2.5 room balance using a NIST traceable check standard; conducted a gas chromatograph standard check using a NIST traceable gas standard; observed, recorded, and corrected all sample media equilibration conditions if they were out of tolerance.

C) Semi-Annual Checks

SCAQMD staff conducted multipoint calibrations of mass-flow controllers in samplers; performed instrument leak checks; and cleaned PM₁₀ inlet heads for all instruments and samplers used in support of MATES IV.

D) Annual Checks

SCAQMD staff cleaned sample probes using de-ionized water and a soft cloth; conducted sample probe leak checks and repaired them as necessary; and conducted 24-hour timer tests by operating the sampler to observe actual run length. Actual start and stop were observed. The timer was repaired if the sample period varied by more than ± 20 minutes from 24 hours.

4.4 DOCUMENTATION

A critical element of an effective QA/QC system is complete and accurate documentation. To ensure that all samples are properly handled, inspected, collected, analyzed, and reported, a comprehensive set of QA/QC documents was prepared and completed. The information reported in these documents was crucial in validating reported data quality. Lack of properly documented data could be grounds for data invalidation. A summary of QA/QC sampling activities is attached as Appendix P.

A) Chain-of-Custody Forms

Sample forms (Appendices B, D, and E) are necessary to identify and control the disposition of the samples through the multiple steps of preparation, sampling, retrieval, analysis, and data reporting. As appropriate, chain-of-custody forms accompanied samples collected under MATES IV. These forms originated with field operators, were delivered to the Laboratory, and submitted to the assigned Laboratory staff. The Laboratory is responsible for storing all chain-of-custody documents.

B) Maintenance Check Sheets

Maintenance sheets (Appendices C and D) were completed by field instrument operators for PM₁₀ samplers and wind speed and direction systems. These monthly maintenance sheets were submitted to senior field operators for review, approval, and storage.

Other types of QA/QC, station and laboratory documentation and their descriptions are listed in Table 4-1 through 4-4 and 4-6.

TABLE 4-2 QA/QC Records

Document Name	Brief Description	Format	Storage Location
Training Files	Records substantiating the training and proficiency of staff relevant to this program	Hard copy	AM Branch: File Cabinet in "Bullpen" in AM Area; LSST Branch: Training Binder at Laboratory Front Desk, PDF copies: e:\astd\quality assurance\laboratory\training\scanned forms
QAPP	Master version of QAPP, including pending revisions	Hard copy or electronic	QA Branch Records or M&A online resources and e:\astd\quality assurance\current_documentation\QAPP_SOPs
SOPs	Current version of all SOPs	Hard copy or electronic	QA Branch Records or M&A online resources and e:\astd\quality assurance\current_documentation\QAPP_SOPs
Performance Evaluations and Audits	Results of internal and external assessments	Hard copy and/or electronic	QA Branch Records; AM Branch: Principal AQIS Operations; LSST Branch: Laboratory Report Binder and e:\astd\quality assurance\quality assurance branch\audits
Corrective Action Reports	Results or identified QA problems and their resolution	Electronic	Program Office, QA Office and e:\astd\quality assurance\quality assurance branch\QA CAR

TABLE 4-3 Laboratory Records

Document Name	Brief Description	Format	Location
Laboratory Notebooks	Includes the following types of notebooks and bound data sheets: - analysts' notebooks - instrument maintenance logs - reagent preparation logs - materials acceptance tests	Hard copy	Instrument benches
Calibration Certificates and Records	Includes certificates of NIST traceability and similar records	Hard copy	Instrument benches
Control Charts or Equipment	QC information displayed in sequence to help diagnose problems with analytical instruments. Usually includes acceptance limits that are periodically recomputed.	Hard copy or spreadsheet	Hardcopies: Instrument benches. Electronic: instrument control PCs.
SOPs	Current copies of SOPs relevant to the analyses performed in a particular laboratory	Hard copy	Instrument benches, M&A online resources and e:\astd\quality assurance\current_documentation\QAPP_SOPs
QAPP	A current copy of this QAPP. The Principal Chemist must ensure that each analyst has access to a current copy of the QAPP	Hard copy	QA Branch Records or M&A online resources and e:\astd\quality assurance\current_documentation\QAPP_SOPs
Analytical Results Database	Results for each chemical analysis with identifying information	Spreadsheet or LIMS	Analyst computer/ LIMS Server
Analytical QC Database	Includes all QC information for each weighing session including standard weights, duplicates, field blanks, and laboratory blanks.	Spreadsheet or LIMS	Analyst computer/ LIMS Server

TABLE 4-4 Station Records

Document Name	Brief Description	Format	Location
Station Notebooks	Logs station activity	Hard copy	Station
Instrument User's Manual and/or Manufacturer's Instructions	Information for setting up, using, and troubleshooting the continuous gaseous monitors	Hard copy	Station
Calibration Certificates and Records	Includes certificates for gases and other chemicals used for calibration	Hard copy/ Electronic	Station/ Shared Drive
QC Records	Results of instrument blanks, calibrations, standard recoveries, and replicate precision	Computer files and hard copy	Maintenance Sheets/ Calibration Sheets/ Database
Raw Data Records	Results of instrument analyses (including supporting data that is not uploaded to the database)	spreadsheets; hard copy; and DMS, chessell, custom database	Database/ Server

4.5 DATA REVIEW

MATES IV data validity was based upon the appropriate implementation of operational and QA/QC procedures described in this appendix. To assure that the program's DQOs were met, responsibility for data review was distributed between the field operators, calibrators, auditors, and supervisors, Laboratory Chemists and Supervisors, QA Supervisors, and the Laboratory and Atmospheric Measurement Managers.

TABLE 4-5 Position Responsibilities

Position	Responsibilities	Upward Lines of Communication
Health Effects Officer	Principal Investigator of MATES IV responsible for direction and implementation of the study; coordinate MATES IV TAC	ADEO: Planning, Rules and Area Sources
Laboratory Services and Source Test Engineering Manager	Responsible for preparation of sampling media and analysis of samples submitted to laboratory	ADEO: Science Technology Advancement
Atmospheric Measurements Manager	Responsible for establishment, operation and maintenance of monitoring stations	ADEO: Science Technology Advancement
Quality Assurance Manager	Responsible for reviewing, developing, documenting, and implementing QA/QC practices and procedures	ADEO: Science Technology Advancement
Principal Air Quality Chemist: Aerosol Analysis	Responsible for laboratory operations of the Aerosol Analysis group which conducts analysis of PM _{2.5} and PM ₁₀ Mass and TSP Lead filters.	Manager: Laboratory Services and Source Test Engineering
Senior Air Quality Chemist: Aerosol Analysis	Responsible for supporting Aerosol Analysis group operations and 2 nd level data validation of data analyzed from PM _{2.5} and PM ₁₀ Mass and TSP Lead filters.	Principal AQ Chemist: Aerosol Analysis
Principal Air Quality Chemist: Ambient VOC/ Toxics	Responsible for laboratory operations of the Ambient VOC/ Toxics group which conducts carbonyl and VOC analysis	Manager: Laboratory Services and Source Test Engineering
Senior Air Quality Chemist: Ambient VOC/ Toxics	Responsible for supporting Ambient VOC/ Toxics group operations and 2 nd level data validation on carbonyl and VOC analyses.	Principal AQ Chemist: Aerosol Analysis
Air Quality Chemist and Assistant Air Quality Chemist	Responsible for following SOPs and GLP in the analysis of samples; submittal of data into LIMS	Principal AQ Chemist: Aerosol Analysis
Laboratory Technician	Responsible for following SOPs and GLP for the preparation of samples or sampling media	Principal AQ Chemist: Aerosol Analysis
Principal Air Quality Instrument Specialist	Responsible for station operations and deployment and/or coordinating repair and calibrations	Atmospheric Measurements Manager
Senior Air Quality Instrument Specialist	Responsible for supporting operations and 2 nd level data validation	Principal Air Quality Instrument Specialist
Air Quality Instrument Specialist I and II	Responsible for following SOPs and GLP in the collection of samples from the field sites, maintaining the station site, and/or repair and calibration of instruments	Principal Air Quality Instrument Specialist

A) Field Supervisors

Field supervisors were responsible for locating and setting up field sites, scheduling operators, training field operators, coordinating supply ordering, supply receipt and distribution, and review of monthly QC maintenance sheets. The field supervisors were also responsible for notifying the appropriate supervisor in the Laboratory of every event that could invalidate the sample.

B) Field Operators

Field operators were responsible for operating all samplers and analyzers according to the operating procedures specified in this document. Field operators annotated all information in the monthly QC maintenance sheets, chain-of-custody forms, sample tags, and logbooks. Field operators were also responsible for notifying their supervisors of every out-of-control flow setting, timer setting, expected start or ending pressure, or any other instrument malfunction.

C) Field Calibrators

Field calibrators were responsible for performing semiannual multipoint calibrations on flow control-devices according to SCAQMD calibration procedures. Any as-is calibration showing a deviation from design flowrate in excess of acceptable criteria was reported to the field supervisor. Any samples collected while flow percentage deviation from design flow exceeds acceptable criteria were invalidated back to the previous flow calibration, audit, or malfunction date.

D) Field Auditors

SCAQMD field auditors conducted flow audits on 25 percent of the entire network each calendar quarter. Auditors were responsible for notifying the QA Manager of any audit indicating a greater than $\pm 15\%$ average percent deviation from design flow for follow up.

F) Laboratory Chemists

Laboratory Chemists were responsible for receiving field samples, maintaining and storing chain-of-custody documents, performing and documenting QC activities on the QC monthly maintenance sheets, performing Laboratory audit analyses, and conducting preliminary data review for outliers and out-of-control conditions.

G) Laboratory Supervisors

Laboratory supervisors were responsible for final raw data review; calculation of precision based upon collocated sampling; reviewing monthly QA/QC sheets; making final evaluation of data validity based on reports from the QA group and field supervisor; and assessment of Laboratory precision data.

H) Atmospheric Measurements Manager

The Atmospheric Measurements Manager was responsible for overseeing MATES IV field operations.

I) Laboratory Services and Source Testing Engineering Manager

The Laboratory Services and Source Test Engineering Manager was responsible for overall coordination of field and analytical activities for MATES IV.

J) Quality Assurance Manager

The Quality Assurance (QA) Manager was responsible for implementing the quality assurance program for the MATES IV program including independent performance and system evaluations, the corrective action process, establishing acceptance criteria for sample validity once with consideration of quality control data and review of quality control procedures.

4.6 ASSESSMENTS AND RESPONSE ACTIONS

SCAQMD participates in field and laboratory assessment or proficiency programs established by U.S. EPA and CARB, and maintained any analyst or laboratory certification required for the program. Examples of assessments applicable to the MATES IV program are listed in Table 4.6. The QA Manager, or his designee, performed or arranged performance of periodic technical systems audits of SCAQMD activities. These audits covered all aspects of SCAQMD's work, including sample receipt, custody, conditioning, weighing, chemical/speciation analysis, shipping, data reduction and reporting. Prior to each audit, a checklist was prepared, based on the MATES IV workplan, SOPs, and applicable guidance documents. After audits, the QA Manager communicated to the Atmospheric Measurement Manager and/or the Laboratory Manager to specify areas in which corrective action were necessary and prepared a corrective action report (CAR) tracked by the QA Branch. If any serious problems were identified that required immediate action, such as a large, systematic analytical bias, the QA Manager informed the respective manager verbally or through electronic mail the day that such problems are

identified as well as issued a Corrective Action Report. The corrective action followed the Corrective Action Process as described in the SCAQMD QMP (2009).

TABLE 4-6 QA Assessments Applicable to the MATES IV Program

Audit Name	Description	Frequency	Agency
SCAQMD Speciation network Performance Evaluation	Flow check, temperature, and pressure evaluation of the samplers (PM10, PM2.5, TSP, and SASS)	Twice a year	SCAQMD, QA Branch and/or an Approved Contractor
EPA Chemical Speciation Monitoring Program and IMPROVE Laboratory Performance Audit Samples.	1. Anions/Cations collected on nylon/quartz filters and analyzed by ion chromatography. 2. Organic and elemental carbon collected on quartz filters and analyzed by TOR/TOT 3. Metals collected on 47mm Teflon filters and analyzed by EDXRF and ICP/MS. 4. PM _{2.5} mass collected on 47mm Teflon filters and analyzed by gravimetry.	Annual	U.S. EPA OAQPS
PM _{2.5} Weighing Room Evaluation	Conditioning Room Audit	Annually	SCAQMD, QA Branch
PM _{2.5} Weighing Room Evaluation	Gravimetric Mass Analysis performance evaluation and Conditioning Room Audit	Annually	CARB
U.S. EPA Systems Audit	All lab and field instrumentation, practices and procedures used to collect data for Federal Programs	Every 3 – 5 Years	U.S. EPA Region 9
CARB Ambient Gaseous Toxic Inter-laboratory Comparison Check.	Intercomparison of TO-15 compounds in ambient air matrix	Annually	CARB
CARB Ambient Gaseous Toxic Performance Evaluation.	Single Blind Challenge PE of TO-15 compounds in a standard VOC mix	Annually	CARB
SCAQMD QA Branch Carbonyl PE	Carbonyls – As specified by the PAMS/NATTS Programs	Annual and as needed	SCAQMD QA Branch

TABLE 4-6 QA Assessments Applicable to the MATES IV Program (Continued)

Audit Name	Description	Frequency	Agency
NATTS Carbonyl PT	Carbonyls: Formaldehyde and Acetaldehyde	Annually	EPA-OAQPS-AQAD
SCAQMD QA Branch VOC PE	TO-15 compounds	As needed or follow up to CAR	SCAQMD QA Branch
NATTS PT	NATTS VOCS on Select TO-15 compounds in a canister & metals by ICP/MS.	Annually	EPA-OAQPS-AQAD
Quarterly Pb Performance Evaluation	Technical evaluation on manual filter samplers (TSP)	Quarterly	SCAQMD, QA Branch
Annual Performance Evaluation	Technical evaluation on manual filter samplers (PM2.5, PM10)	Annually	SCAQMD, QA Branch
Meteorological Evaluation	Technical evaluation on surface meteorology instruments	PAMs stations; Annually	SCAQMD, QA
National Performance Evaluation Program	PM2.5 PM10, and TSP collected on appropriate filters from FRM samplers and analyzed by independent, certified, EPA approved laboratory.	Annual; 20% of the network	U.S EPA OAQPS/ Region 9
National Performance Audit Program – Pb Analysis	Technical evaluation of Pb Analysis from strips; Quarterly audit strip analysis	Quarterly	U.S. EPA Region 9; SCAQMD, QA Branch

4.6.1 Total Systems Audits (TSAs)

During MATES IV, a series of internal systems audits were conducted on the monitoring network and data quality, under the oversight of the QA Manager. Due to the number of methods and the size of the monitoring network for MATES IV, the systems audit was an on-going process. The systems audit included inspections of monitoring sites, a periodic review of the Laboratory by section or types of analyses, and a review of the data validation systems from the initial source of the data through the archiving and reporting of that data. The various aspects of the annual systems audit were conducted by QA staff or under contract with an independent contractor working under the oversight of the QA Manager.

In addition, as part of Federal air monitoring programs, external systems audits are carried out by the U.S. EPA and CARB, at their discretion and using either agency staff or through independent consultants working under the oversight of U.S. EPA or CARB. SCAQMD also contracts with independent consultants to conduct an external audit of selected systems in addition to the regular annual internal audit. These audits include a majority of methods and analyses conducted under MATES IV and review and follow-up of the audit findings, if necessary, is conducted through the QA Branch.

4.6.2 Performance Evaluations (PEs)

Performance evaluations are conducted for determining the accuracy and precision of monitoring and analytical instrumentation and procedures that provide the data for the various monitoring programs, including MATES IV. All performance audits whether performed by SCAQMD QA staff, independent consultants or other entities are required to satisfy requirements under the appropriate QAPPs and SOPs. These audits may be internal and/or external.

Internal performance audits may be conducted by QA staff or through independent consultants under the oversight of the QA Manager. Due to the size and scope of the program, performance evaluations were conducted on an on-going basis. Performance audits were scheduled for each specific instrument and target U.S. EPA measurement criteria (when applicable).

External performance evaluations are carried out by the U.S. EPA and CARB, at their discretion and using either agency staff or through independent consultants working under the oversight of the U.S. EPA or CARB. SCAQMD QA Branch may also conduct a performance evaluation or contract with independent consultants to conduct an external audit of selected systems in addition to the regular annual internal audit.

Chapter 5.0 Data Processing and Reporting

5.1 INTRODUCTION

MATES IV monitoring of ambient air toxics developed a large data base which is available for future analysis. Appendix A compounds, given the frequency of sampling in MATES IV, resulted in more than 25,000 individual data points including data for concentration, time and location of sampling. The purpose of this chapter is to outline the data handling of this large database. This section will only pertain to laboratory work performed and not to the meteorological, criteria pollutant, or monitor calibration data.

The SCAQMD Laboratory has experience handling large data bases including those generated under MATES II and III. Reporting templates for carbon analysis and XRF elemental analysis (inorganics) were based upon those used in MATES II and III and US EPA's PM Speciation Network requirements. Reporting templates for the VOCs, halogenated hydrocarbons, and carbonyls adhered to the PAMS and NATTS formats.

The aim of reporting is to generate Excel data files for electronic transfer to interested parties. The data has been checked for transcription errors, to assure that it meets DQOs and for adherence to other QA criteria such that the data represent the most accurate determinations possible. The Laboratory made every effort to disseminate the data in a timely fashion to facilitate feedback.

5.2 DATA BASE COMPILATION

Laboratory chemists generated data presenting the concentration of a particular compound found over a particular time period at a particular site. Samples were analyzed and results presented as the volume concentration on a parts-per-billion or ng/m^3 basis. These concentrations have been compiled into a spreadsheet along with the name of the sampling site and the date the sample was taken. The chemist (analyst) was responsible for checking data accuracy. The technician in charge of copying the data into the spread sheet was responsible for their accurate transcription. The Senior AQ Chemist was responsible for double checking the chemists' and technicians' data entry and transcription work.

As resources permitted, one AQ Chemist operated a particular instrument while another AQ Chemist reduced the data and transcribed it to an Excel spreadsheet. This structure led to the most efficient data handling. Chemists also reduced the data from several instruments depending on their workload.

MATES IV data encompasses PM_{10} and $\text{PM}_{2.5}$ mass and ions, VOCs, carbonyls, metals, PAHs, and carbon results. Run dates are encoded with the year, month, and day in six numerals. This information is followed by a two-letter acronym representing the station and concentration. The column header has the name of the compound and the concentration units. Uncertainties encompass the calculated limits for the sampling and analysis errors introduced into the measurement system.

The MATES IV data has been compiled into several spreadsheets. These spreadsheets will conjugate components along the lines of the analysis technique. Each instrument will have a separate spreadsheet for the compounds it analyzes.

The Laboratory will work with data end users to supply the electronic version in whatever file length or configuration is desired. The data can also be translated into ASCII flat files.

5.3 PERIODIC REPORTS

The Laboratory's goal was to meet a two-month turnaround time from the date of sample receipt to the finished and checked report. VOCs, carbonyls, metals, and carbon will be sampled individually, but in similar fashion. Duplicate and other QC samples were analyzed with each batch analysis run. The reports are available in electronic file and as printed spreadsheets.

5.4 FINAL REPORT

Experience with MATES II and III report preparation has demonstrated that the final MATES IV report including QA information may take in excess of six months to complete after the last day of sampling. Laboratory staff have migrated Excel spreadsheets to an Access database. The final report has been stored in several files segregated by date and type of analysis.

Glossary

Accuracy

A determination of how closely reported data values are to true values. Annually conducted performance audits will challenge the various samplers and instruments used in this program to assess their accuracy. All program data accepted as valid will meet the criteria set forth in Table 4-1. Accuracy is expressed as “percent” deviation from true and is calculated as follows:

$$\frac{\text{Percent Deviation from True}}{\text{True}} = \frac{\text{Indicated Value} - \text{True Value}}{\text{True Value}} \times 100$$

Collocated Sampling

The process of running two identical samplers concurrently at the same location. Collocated data measures a method’s precision. One of the samplers is designated *A* and is treated as the true value; while the other sampler is designated *B* and is regarded as the indicated value.

Data Completeness (DC)

The percent of valid data points actually collected out of the total number of data points possible. The data completeness objectives for the MATES II and MSS programs are presented in Table 4-1. DC is calculated using the following formula:

$$\text{percent DC} = \frac{\text{Total valid data points}}{\text{Total number of possible data points}} \times 100$$

Performance Audit

A procedure conducted to establish individual analyzer and overall sampling and analysis accuracy. Probe audits are used to measure the integrity of both the sampling and analysis systems. Flow audits measure the accuracy of the flow metering devices that assure the sample’s temporal representativeness. Gas standard audits determine accuracy of laboratory analyzers in measuring known concentrations of toxic compounds.

Precision

The measure of monitoring system repeatability. Precision is determined by amassing a variety of measurements of the same true value over a period of time and assessing the variability of those measurements. Precision objectives for the various monitoring methods used in MATES II and MSS programs are presented in Table 4-1.

Quality Assurance (QA)

The practice of establishing procedures external to the day-to-day monitoring operations that indicate whether or not air quality data is accurate, representative, precise and complete enough to satisfy the needs of the data users. QA activities include, but are not limited to, system and performance audits and collocated and parallel sampling. These activities are described in detail in Chapter 4.

Quality Control (QC)

Any procedure incorporated into the internal, day-to-day operations of collection and analysis of air quality samples to satisfy the data user's need for valid data. These activities are described in detail in Chapter 4.

Representativeness

The goal that samples are representative of both temporal and/or spatial scales at all sites. This is accomplished by conforming to 40CFR58 siting and sampling requirements for PM₁₀.

System Audit

An on-site inspection and review of the entire monitoring program.

ACRONYM LIST

AC	alternating current
AIHL	American Industrial Hygiene Laboratory
AM	Air Monitoring
ARB	Air Resources Board
AST	Applied Science and Technology
ASTM	American Society of Test Methods
Basin	South Coast Air Basin
cc	cubic centimeters
ccm	cubic centimeters per minute
cfm	cubic feet per minute
CFR	Code of Federal Records
DC	direct current
DNPH	2, 4-dinitrophenyl-hydrazine
EDB	ethylene dibromide
EDC	ethylene dichloride
EJ-2	Environmental Justice Initiative Number 2
EPA	Environmental Protection Agency
EPROM	erasable prompt chip
ERN	equipment relocation notice
ETM	elapsed time meter
FPC	filter paper cartridge
HPLC	High Performance Liquid Chromatograph
ICP/MS	Inductively Coupled Plasma/Mass Spectrometry
LIMS	Laboratory Information Management System
LOD	Level of Detection
lpm	liters per minute
MATES II	Multiple Air Toxics Study II
MATES III	Multiple Air Toxics Study III
MATES IV	Multiple Air Toxics Study IV
MFC	mass flow controller
mph	miles per hour
MTBE	methyl tert butyl ether
NAMS	National Air Monitoring Stations
NATTS	National Air Toxics Trends Stations
NEMA	National Equipment Manufacturer's Association
PAH	polycyclic aromatic hydrocarbon
PAMS	Photochemical Assessment Monitoring Station
PE	performance evaluation
PM	particulate matter
ppb	parts per billion
ppbC	parts per billion carbon
PSI	pounds per square inch
PST	Pacific Standard Time
PTEP	Particulate Technical Enhancement Program

PUF	polyurethane foam
QA	quality assurance
QC	quality control
RAM	random access memory
rms	root mean standard
SASS	speciation air sampling system
SCAQMD	South Coast Air Quality Management District
SCC	sharp cut cyclone
SCFM	standard cubic feet per minute
SLAMS	State and Local Air Monitoring Stations
SOP	standard operating procedure
SSI	size selective inlet
TAC	toxic air contaminant
TSA	Total System Audit
TSP	total suspended particulates
V	Volt
VOC	volatile organic compound
WSD	wind speed and direction
XRF	X-ray fluorescence

APPENDIX A Air Contaminants Measured in MATES IV Program

CAS No.	Chemical Name	Lab Test Method	Comment
VOCs			
67-63-0	Acrolein (2-propenal)		No Ambient Method
71-43-2	Benzene	GC/MS/FID	
106-99-0	Butadiene [1,3]	GC/MS/FID	
(o-) 95-50-1	Dichlorobenzene [ortho- & para]	GC/MS/FID	
100-41-4	Ethyl Benzene	GC/MS/FID	
100-42-5	Styrene	GC/MS/FID	
108-88-3	Toluene	GC/MS/FID	
(m-) 108-38-3	Xylene [m+p, o-]	GC/MS/FID	
75-01-4	Vinyl chloride	GC/MS/FID	
Halo-HCs			
56-23-5	Carbon tetrachloride	GC/MS/FID	
67-66-3	Chloroform	GC/MS/FID	
107062	Ethylene dichloride {EDC} (1,2 Dichloroethane)	GC/MS	
75-09-2	Methylene chloride (Dichloromethane)	GC/MS/FID	
127-18-4	Perchloroethylene (tetrachloroethene)	GC/MS/FID	
78-87-5	Propylene Dichloride (1,2-dichloropropane)	GC/MS/FID	Not in Mates II
79-01-6	Trichloroethylene	GC/MS/FID	
Carbonyls			
75-07-0	Acetaldehyde	HPLC	
67-64-1	Acetone	HPLC/ GC/MS/FID	Not Reported
50-00-0	Formaldehyde	HPLC	
78-93-3	Methyl ethyl Ketone (MEK)	HPLC/GC/MS/FID	Not Reported
1634-04-4	Methyl tert-Butyl Ether (MTBE)	HPLC/GC/MS/FID	Not Reported
Inorganics			
7429-90-5	Aluminum	ICP/MS:XRF	
7440-38-2	Arsenic	ICP/MS:XRF	
7440-41-7	Beryllium	ICP/MS:XRF	
7440-43-9	Cadmium	ICP/MS:XRF	
7440-70-2	Calcium	ICP/MS:XRF	
7440-47-3	Chromium (total)	ICP/MS:XRF	
	Chromium (hexavalent)	IC	
7440-48-4	Cobalt	ICP/MS:XRF	
7440-50-8	Copper	ICP/MS:XRF	
7439-89-6	Iron	ICP/MS:XRF	
7439-92-1	Lead	ICP/MS:XRF	
7439-95-4	Magnesium	ICP/MS:XRF	
7439-96-5	Manganese	ICP/MS:XRF	
7440-02-0	Nickel	ICP/MS:XRF	
7723-14-0	Phosphorous	ICP/MS:XRF	
7440-09-7	Potassium	ICP/MS:XRF	
7782-49-2	Selenium	ICP/MS:XRF	
7440-21-3	Silicon	ICP/MS:XRF	
7440-62-2	Vanadium	ICP/MS:XRF	
7440-66-6	Zinc	ICP/MS:XRF	
Others			
	Elemental & organic carbon	C analyzer	
Criteria Pollutants			
	PM _{2.5}	SASS	Speciation
	PM ₁₀	SSI-Hivol	PM network

APPENDIX B Size-Selective Inlet PM₁₀ Sampler Envelop

**South Coast Air Quality Management District
Applied Science & Technology**

Size-Selective Inlet PM₁₀ Sampler Envelop

FIELD OPERATOR USE	LABORATORY USE ONLY
STATION # _____	SAMPLE # _____
LOCATION _____	FLOWRATE, CFM _____
SAMPLER # _____	VOLUME OF AIR, M ³ _____
QUARTZ FILTER # _____	FINAL WEIGHT (gm) _____
DATE _____	TARE WEIGHT (gm) _____
TIME	SAMPLE WEIGHT (gm) _____
END _____	PM ₁₀ (μg/M ³) _____
START _____	SAMPLE RECV'D _____
TOTAL _____	
REMOVED FROM SAMPLER _____	SAMPLE WEIGHED _____
SENT TO HQ _____	SAMPLE EXTR. _____
RECEIVED AMB _____	SAMPLE ANALYSIS _____
	REF. _____

DATE SAMPLER CALIBRATION _____

STATION OPERATOR _____

Remarks (unusual activities sampling conditions, etc.):

APPENDIX C WSD Monthly Quality Control Maintenance Check Sheet

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

MONTHLY QUALITY CONTROL MAINTENANCE CHECK SHEET

MAKE/MODEL _____ Wind Speed and Direction System

Location _____ Month/Year _____

Station No. _____ Specialist _____

Control No. _____ Reviewed by _____ Date _____

Date	Zero Speed		Zero Direction		Visual Wind Transmitter Check	Chart Time	
	As Found	Final	As Found	Final		As Found	Final

OPERATOR INSTRUCTIONS:

Daily Checks: Chart trace and time.

Weekly Checks: Zero speed and direction inking system

Visual wind transmitter check. The station operator will visually check the wind transmitter to confirm the direction coincides with recorder. Notify supervisor immediately if problem occurs.

Bi-monthly

Maintenance:

DATE	COMMENTS OR MAINTENANCE PERFORMED

Calibration Date: _____

Operator _____

APPENDIX D High Volume Monthly Quality Control Maintenance Check Sheet

**High Volume
Monthly Quality Control Maintenance Check Sheet**

MAKE/MODEL _____

HIGH VOLUME SAMPLER _____

Location _____

Month/Year _____

Station No. _____

Specialist _____

Control No. _____

Reviewed by/Date _____

Operating Set Point _____

Cubic Feet per Meter _____

Date SSI Head Cleaned _____

Due Date _____

Sample Date	Initial Flow cfm	Final Flow cfm	Filter No.	Initial Elapsed Time	Final Elapsed Time	Total Time
1						
2						
3						
4						
5						
6						
7						
8						
9						
10						
11						
12						
13						
14						
15						
16						
17						
18						
19						
20						
21						
22						
23						
24						
25						
26						
27						
28						
29						
30						
31						

APPENDIX E MATES IV Sample Log

South Coast Air Quality Management District
Mates IV Sample Log

Location: _____
 Sample Date: _____
 Station No.: _____
 Retrieved By: _____
 Retrieval Date: _____

Lab No.: _____
Date Sample Received: _____
Reference No.: _____
Analyst: _____

Canister Log – XonTech 910

Sample Time	Canister No.	Start Vacuum	End Pressure	Comments
24 hour				
Blank				
Collocated				

DNPH Cartridge Log – XonTech 924

Sample Time	Cartridge No.	Elapsed Time	Flow Rate	Comments
24 hour				
Blank				
Collocated				

Filter Log – XonTech 924

Sample Time	Filter No.	Flow Rate	Comments
Teflon (Metals)			
Cellulose (Chrome VI)			
PM ₁₀ (Hi-Vol)			

(Staple Printout Here)

APPENDIX F VOC Canister Tag

VOC CANISTER TAG

		CANISTER #					
		1	2	3	4	5	6
Field	Code						
	Date						
	Time						
	Initial Pressure						
	Final Pressure						
	Initials						
	Non-Routine Sample?						
	Comments						
Laboratory	Analyst						
	Cleaner						
	Blank Reference						
	Comments						

APPENDIX G Method Description for Sampling and Analysis of Carbonyls by HPLC at the SCAQMD Laboratory

Sampling - Ambient air is drawn through a dinitrophenylhydrazine (DNPH) coated silica cartridges mounted in the Xontec 924 sampler. The sampler is located on a stand outdoors to EPA siting specifications. The Xontec 924 incorporates a potassium iodide (KI) impregnated filter upstream of the cartridge for ozone destruction. The sampling cartridges are coated with a minimum of 300 mg of DNPH on Waters Sep-Pak silica cartridges. The sample is pulled through the cartridge at approximately 0.7 lpm for 24-hour sampling. Before and after sampling the cartridges are kept capped and refrigerated in small vials to prevent loss or contamination.

Laboratory Analysis - The laboratory uses a Waters Millennium system high performance liquid chromatograph (HPLC) with autosampler. After elution of the Sep-Pak cartridge with three milliliters of acetonitrile, the samples are placed in the autosampler. Samples are run isocratically (55% acetonitrile and 45 % H₂O) on a Waters C-18, 5 micron, 4.6 mm by 250-mm column. Flow is one milliliter per minute. Twenty microliters are injected onto the column by the autosampler.

Quantification - A calibration curve is derived from multipoint injections of standards obtained from two separate sources. One point control standards are run every 10 samples with the batch analysis. PAMS/NATTS compounds, acetaldehyde, formaldehyde, and acetone, are quantified by comparison to the calibration curve.

QA/QC - The instrument Minimum Detection Level (MDL) is determined for the HPLC response (EPA Appendix B to Part 136, 40CFR Ch.1) and the system MDL is calculated for a typical air volume sampled. A collocated cartridge is run every 6 days of sampling in the field. Blank cartridges are run at a similar frequency. All samples are run in duplicate.

APPENDIX H Method Description for Sampling and Analysis of Elements by Energy Dispersive X-ray Fluorescence (XRF) Spectrometry at the SCAQMD Laboratory

Sampling - Ambient air is drawn through a 47 mm Teflon filter loaded in a TSP or PM_{2.5} sampler. Typically, 24 hour sampling at about 20 lpm provides sufficient sample mass on the filter for a successful analysis. The sampler must collect a homogeneous sample across the surface of the filter. The Panalytical Epsilon5 XRF instrument examines a very small cross section of the filter near the center.

Laboratory Analysis - A Panalytical Epsilon5 Energy Dispersive X-ray Fluorescence spectrometer is used to analyze 43 elements in the filter sample. There is no need for sample preparation other than bringing the filters to room conditions. Each filter is loaded onto an autosampler, brought to a sample chamber kept under vacuum and scanned under ten different instrumental conditions. Each condition is optimized for certain groups of elements. After spectral acquisition, an identification and deconvolution process extracts the net contributions of counts of each of the 43 elements.

Speciation and Quantification - Each element has a unique spectral pattern. After accounting for overlaps, each of the elements is identified qualitatively. By using previously calibrated standard values the net counts for each element are converted to actual concentrations in $\mu\text{g}/\text{cm}^2$. Using air volume data gathered during sampling, the $\mu\text{g}/\text{filter}$ concentrations of the elements are converted to ng/M^3 .

QA/QC - The X-ray instrument is calibrated using 35 single element standards. These calibration standards are checked using an NIST multi-element film standard. The NIST is run at the beginning and end of each sequence. Filter blanks are analyzed and used to subtract background from subsequent runs using the Epsilon 5 software. Field blanks are taken at specified times depending on the frequency of sampling. Field blank results are either subtracted or reported in accordance with data reporting and analysis requirements. Finally, all runs are checked in duplicate for precision.

APPENDIX I Method Description for Sampling and Analysis of Elements by Inductively Coupled Plasma Mass Spectrometry (ICP/MS) at the SCAQMD Laboratory

Sampling - Ambient air is drawn through a 47 mm Quartz filter loaded in a TSP sampler. Typically, 24 hour sampling at about 12 lpm provides sufficient sample mass on the filter for a successful analysis. The Perkin Elmer ICP/MS instrument examines total metal concentrations on the whole filter.

Laboratory Analysis - A Perkin Elmer ICP/MS is used to analyze 38 elements in the filter sample. Sample preparation procedures include digesting the whole filter in 11% nitric acid in a microwave oven, centrifuging the digested solution and diluting 10 times with 2% nitric acid. The diluted solution is then analyzed by ICP/MS.

Speciation and Quantification - The elements in the samples are ionized with inductively coupled plasma and are separated in the mass spectrometer based on their mass to charge ratio and then their concentrations are determined by the detector based on the intensities of ion counts. Using air volume data gathered during sampling, the $\mu\text{g/L}$ concentrations of the elements are converted to ng/m^3 .

QA/QC - The ICP/MS instrument is calibrated using a calibration standard mixture containing all the interested elements. The standard is diluted to eight concentrations and a 9 point calibration curve is generated and used to determine the concentration of samples. After the initial calibration is completed, a calibration check is required at the beginning and end of each analysis period for one analytical batch and at intervals of ten samples to verify the calibration. A blank filter and a blank filter spike sample is also digested and analyzed in each batch to examine the extraction efficiency and matrix effect.

Nickel Analysis by ICP/MS - Nickel overestimation by ICP/MS was determined to be caused by the ubiquitous and proportionally very high concentration of Calcium and Sodium which form interfering molecular ions in the plasma. The subsequent correction for Ni by changing the isotope of acquisition to 58 Amu from 60 Amu is described in section 3.6 and Appendix O.

APPENDIX J Method Description for Sampling and Analysis of Organic and Elemental Carbon by Thermal/Optical Carbon Analyzer at the SCAQMD Laboratory

Sampling - Ambient air is drawn through a 47-mm quartz filter loaded in a PM_{2.5} sampler or an 8 x 10 inch quartz fiber filter loaded in a SSI-Hi-Vol sampler. Typically, 24-hour sampling provides sufficient sample mass on the filter for a successful analysis. The sampler must collect a homogeneous sample across the surface of the filter. A one-centimeter diameter punch from any quadrant of the filter is used in the instrument.

Laboratory Analysis - A Desert Research Institute (Reno, Nevada) thermal/optical carbon analyzer is used to determine the total carbon content of aerosol deposited on quartz filters. The analyzer is able to distinguish and characterize organic and inorganic carbon by a thermal/optical method with flame ionization detection. There is no need for sample preparation other than bringing the filters to room conditions. A small circular filter area is punched out from the quartz filter and loaded on to the carrier quartz tube. The filter is pushed into an oven whose temperature is raised in steps from ambient to approximately 850 degrees Celsius. An inert gas, such as nitrogen is continuously passed over the filter. At the same time the surface of the filter is monitored with a laser beam to determine the exact point at which all the elemental carbon (soot) is burned off. The combusted carbon forms carbon dioxide that is carried over to a methanizer. The methanizer (active nickel with the addition of hydrogen gas) converts the carbon dioxide to methane. The methane flows to a flame ionization detector. The detector output is integrated and converted to μg of carbon per filter using previously calibrated standards.

Speciation and Quantification - The light organic fraction is driven off the filter at the early stages of heating. The elemental carbon fraction is then oxidized at a higher temperature with an oxygen enriched carrier gas. A laser beam constantly scans the filter surface indicates the exact point at which the organic and elemental carbon fractions are removed from the filter. The two fractions are summed to give the total carbon concentration of the sample. The analysis results in the elemental, organic, and total carbon content of the sample. Using air volume data gathered during sampling, the $\mu\text{gC}/\text{filter}$ concentrations are converted to $\mu\text{gC}/\text{M}^3$ of air.

QA/QC - The optical-thermal carbon analyzer is calibrated using two types of standards. One set consists of carbon containing gases, methane and carbon dioxide in an inert gas mixture. These are passed through the entire system to calibrate the instrument. In addition, filters impregnated with solution containing a known concentration of carbon are run as external standards. Filter blanks are analyzed for subsequent background correction during the run. Field blanks are taken at specified times depending on the frequency of sampling. Field blank results are reported in accordance with the data reporting and analysis requirements. Finally, collocated runs are utilized in checking precision.

APPENDIX K Method Description for Sampling and Analysis of VOCs by GC/MS/FID at the SCAQMD

Sampling - Ambient air is pumped into an evacuated Summa® polished and/or a silonite coated (Entech™) 6 liter canister by a Xontech 910A air sampler at the sample location through a properly sited probe and manifold. The sample is integrated over 24 hours to fill the canister to approximately 12 PSI, following SOP00080 “XonTech 910 Canister Sampler/Multichannel Controller.” The canister is returned to the laboratory for subsequent analysis by Gas Chromatography with a Mass Spectrometer and Flame Ionization Detector (GC/MS/FID).

Laboratory Analysis - The Laboratory uses an Agilent 6890 Gas Chromatograph with an Agilent 5973 Mass Selective Detector. The sample is concentrated with an Entech 7100A cryo-concentrator for input to the GC/MS/FID. The sample canister is attached to the cryo-concentrator and a 600-milliliter aliquot is chilled in a trap to minus 150 degrees centigrade. For removal of the ambient humidity (water), the trap is heated to 10 degrees centigrade and transferred to a second trap cooled to -45 C for mitigation of the CO₂ collected. The concentrator loop is then heated and the contents cryo-focused at the head of the GC column for subsequent separation of the VOCs. The mass selective detector records the mass spectrum of each peak (compound) and the analyst uses previously determined standards to compare selected ions for each compound to determine the concentration. The FID quantifies non-toxic hydrocarbons per SOP 0008B “Standard Operating Procedure for TO15 (VOC).”

Quantitation - A calibration curve is derived by injection of a gas standard containing the compounds of interest at ppb levels. Every sample run is preceded and ended with a calibration check. Every analysis day is begun with a system blank run. Selected quantitation ions for each compound are compared to the gas standards injected to determine concentration in parts per billion. Non-toxic hydrocarbons are quantified by FID by a split from the column to the MS detector.

QA/QC - The Method Detection Limit (MDL) is determined for the GC/MS/FID by multiple injections of the lowest standard amount available (EPA Appendix B to Part 136, 40CFR Ch.1). Collocated samples are run in the field at one station. All canisters from the canister cleaning system are filled with the purified humidified nitrogen and tested for the presence of the compounds of interest. Above 0.2 ppb of any compound of interest or 10 ppb total of all compounds (compared to the benzene response factor) is cause for corrective action.

APPENDIX L Method Description for Sampling and Analysis of PAH Compounds

Sampling - Ambient air is drawn through an Andersen Instruments Poly-Urethane Foam (PUF) sampler. The method uses a high volume (Hi-Vol) air sampler equipped with a quartz fiber filter and PUF/Tenax glass adsorbent module for sampling between 325 and 400 cubic meters of air in a 24 hour sampling period. The laboratory is responsible for receipt of the quartz fiber filter and PUF/Tenax sorbent collection module, pre-cleaned and blanked, from Eastern Research Group (ERG), transported in a cold pack. The received modules are refrigerated until needed and then constructed for sampling by a Laboratory Technician for use by the field Instrument Technician. The Instrument Technician then installs the filter with PUF/Tenax collection module onto the Hi-Vol sampling unit and collects the sample on the appropriate day. The Instrument Technician returns the sample immediately after sampling and places it in the laboratory refrigerator. The Laboratory Technician then deconstructs the sampling module for shipment to ERG in a cooler with blue ice. Turnaround time for the sample to reach ERG from the sampling date is 7 days.

Laboratory Analysis- Analysis of the collected sample (in accordance with the chain of custody) is performed by ERG, Morrisville, North Carolina. The protocol used is EPA Compendium Method TO-13. The results are reported to the SCAQMD Project Manager and US EPA Air Quality System (AQS). Per ERG, “The test results are in compliance with NELAC accreditation requirements for certified parameters. All analyses are performed as described in the US EPA approved QAPP, under the contract for NATTS.”

QA/QC- Quality Assurance/Quality Control is limited to the sampling process. The Thermo Andersen PUF sampler is calibrated using an orifice transfer standard that has been standardized against a primary standard Roots meter. The orifice transfer standard is referenced to 25 degrees centigrade and 760 millimeters of mercury (Hg). In the field leak checks and sampling flow rate checks are performed each run. Field blanks are run at the prescribed frequency as found in the National Air Toxics Trends study work plan. Non-contaminating and cold transfer of all materials is maintained up through the shipment under cold conditions to ERG.

APPENDIX M Method Description for Sampling and Analysis of Hexavalent Chromium by Ion Chromatography at the SCAQMD Laboratory

Sampling - Ambient air is drawn through a 37-mm sodium bicarbonate treated cellulose filter loaded in a Xontech 924 sampler. Ambient air is pulled through the filter at a rate of approximately 12.0 liters per minute for 24 hours with an aggregate total air volume of approximately 17.2 m³. Samples must be refrigerated to minimize the reduction of hexavalent chromium to trivalent chromium.

Laboratory Analysis - A Dionex ICS-3000 ion chromatograph (IC) is utilized to determine the hexavalent chromium concentration in ambient air samples. The entire filter sample is extracted in 10 mL of 20mM sodium bicarbonate solution via sonication for one hour. The extract is then filtered to remove solids/particles and analyzed by the Dionex IC. This system is comprised of an autosampler, guard column, analytical column, post-column derivatization module, a UV-Vis detector, and Chromeleon software. Hexavalent chromium is detected by a visible lamp at a wavelength of 530nm after forming a complex with diphenylcarbazide in a post-column reaction.

Quantification - A five point calibration curve is generated from prepared standards ranging from 50 to 1000 part per trillion (ppt). The hexavalent chromium sample concentrations are quantified by area comparisons to the area obtained for the calibration standards. The Chromeleon® software calculates the concentrations for each sample based on the calibration curve. (The ppt concentrations are then converted to ng/m³ by multiplying the ppt by the extraction volume (in Liters) and dividing by the air volume (m³).

Quality Control - All analyses are performed following the Standard Operating Procedure for The Analysis of Hexavalent Chromium in Ambient Air by Ion Chromatography (SOP 0046). Performance qualifications are conducted annually to determine the LOD for the Dionex IC. Linearity of the calibration curve is also an important aspect of instrument performance. The IC is calibrated weekly to achieve a minimum correlation coefficient of 0.9990. MDLs are obtained annually to determine the analytical method sensitivity. Blank and check standard analyses are performed every 10 samples to verify the precision of the analytical data. Additionally, an external standard is prepared for every batch of samples to verify the accuracy of the calibration standard. Blank and spike QCs are extracted with every sample batch. Spike QCs are spiked with known hexavalent chromium concentrations and are prepared with the samples. The amount of the spike concentration recovered during the analytical procedure will indicate the accuracy of the method. All samples require duplicate injections, which test precision of IC measurements. Field blanks are collected throughout the sampling duration to determine if there are errors and/or contamination in sample acquisition and the analytical process. The field blank results are reported in accordance with data reporting and analysis requirements. Collocated samples are collected at specified sites and times. The collocated data is used to verify sampling and analytical precision.

Method Enhancements - The analytical method has improved since MATES III in several aspects. A newer Dionex ion chromatograph replaced the previous instrument used in the analysis of MATES III samples for hexavalent chromium. The detection limit for the previous

system and the new system were 0.06 ng/m^3 and approximately 0.02 ng/m^3 , respectively. The detection limit was further improved by the implementation of additional filter pre-sampling treatment procedures, such as nitric acid washing followed by deionized (DI) water rinsing, and impregnation with sodium bicarbonate. The incorporation of nitric acid washing of cellulose filters eliminated the hexavalent chromium background concentrations prior to sampling. This resulted in the removal of a positive hexavalent chromium bias and improved the precision and accuracy during the MDL determination for the analytical method. The resulting MDL after the implementation of these protocols was 0.002 ng/m^3 .

There were also additional enhancements to the sample preparation procedure. The efficiency of the sample extraction process was improved by decreasing the sonication time from 3 hours to 1 hour. This minimized the sample preparation time prior to analysis and prevented the possible change in hexavalent chromium concentration during the sonication process. Further improvement to the detection limit was done by decreasing the extraction volume from 15 mL to 10 mL. The older method of higher extraction volume would have diluted the samples and could have decreased the accuracy of the results for samples near the detection limit. Prior to sampling, the sodium bicarbonate treated cellulose filters had little variability in pH. However, during sampling, the pH of the filters could change depending on proximity to sources or different environmental conditions. In order to ensure that the pH of the extracts was consistent among all samples post-sampling, the extraction solution was changed from DI water to 20mM sodium bicarbonate. The addition of dilute sodium bicarbonate stabilizes the pH, reducing the variability in pH in the samples. For consistency, all standard solutions were also prepared in a 20mM sodium bicarbonate solution. Improvements in the hexavalent chromium method follow the procedures outlined in the National Ambient Toxics Trend Stations Technical Assistance Document (NATTS TAD).

APPENDIX N Comparison of ICP/MS to XRF**Background:**

Energy Dispersive XRF has been used to determine metals in the previous two air toxics study; MATES II & MATES III. The two important differences between the two methods are sample pretreatment and sensitivity. ICP/MS requires acid digestion of filter samples, whereas filters can be run as is on the XRF method. However, for all the air toxic metals, the ICP/MS has significantly better detection limit. Further, the XRF method is not as well suited for TSP filters as it is for PM_{2.5}. The presence of coarse particles on TSP filters creates serious absorption effects on many metals, requiring multiple and complicated corrections. Even these corrections may not work well because they require knowledge of the mass density of each individual filter. As TSP filters are never weighed, XRF determinations on TSP samples are not the ideal matrix for the XRF method. The only advantage of XRF over ICP/MS was the ability to measure crustal elements such as Aluminum & Silicon without sample prep which otherwise would have required very strong acid mixture (including HF) for ICP/MS. Since the toxic metals list for MATES did not include these crustal elements, it was decided to analyze all MATES IV TSP filters for selected toxic metals using ICP/MS.

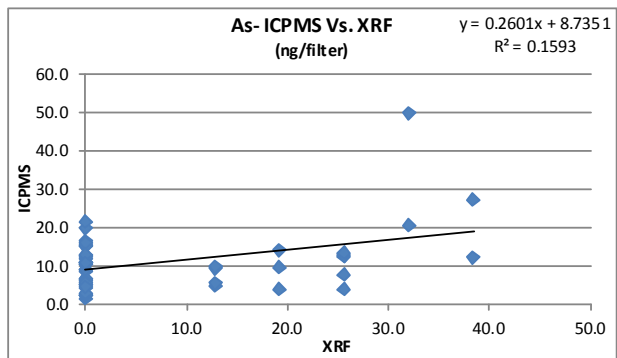
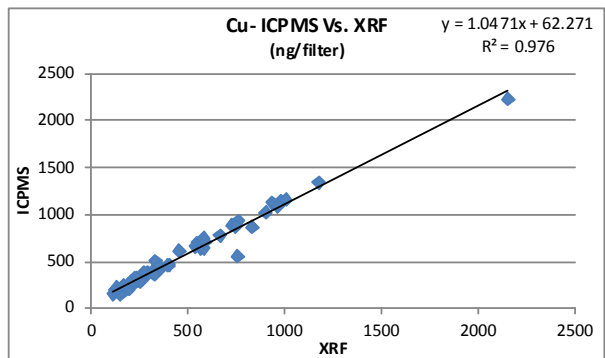
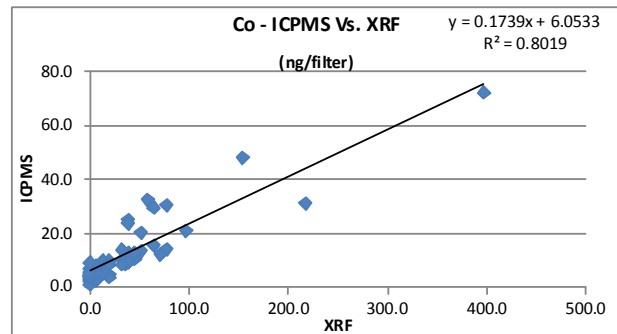
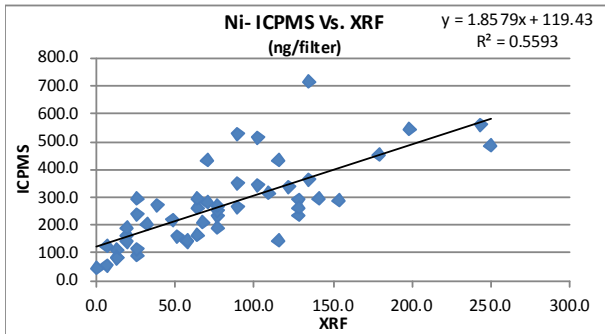
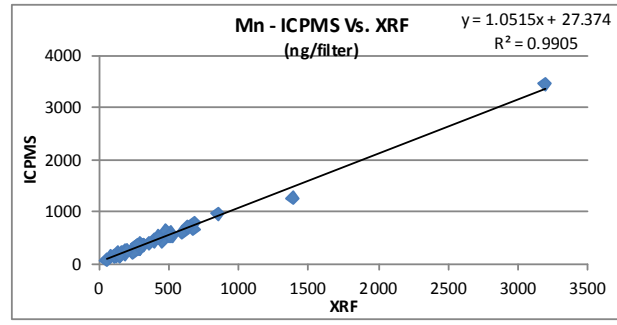
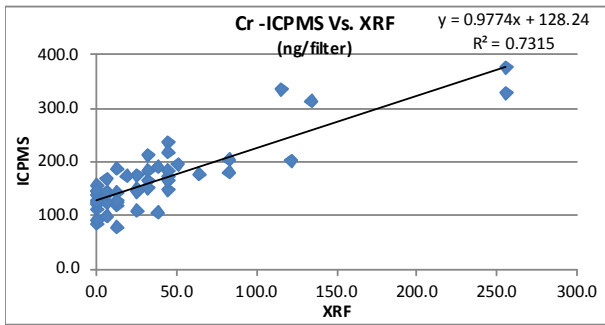
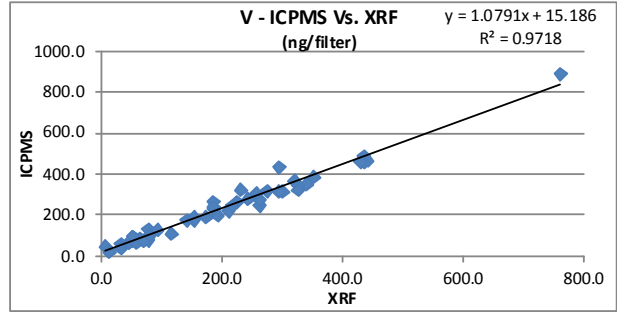
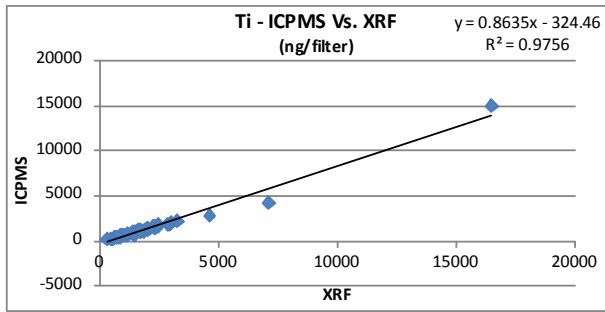
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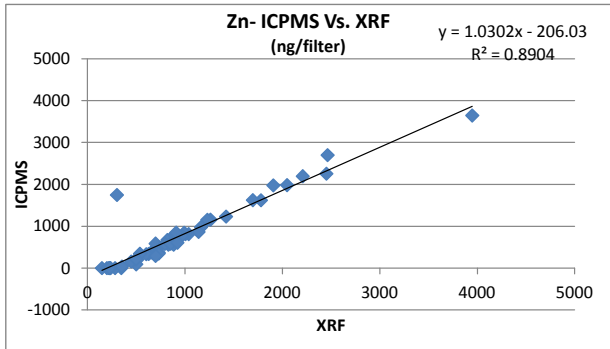
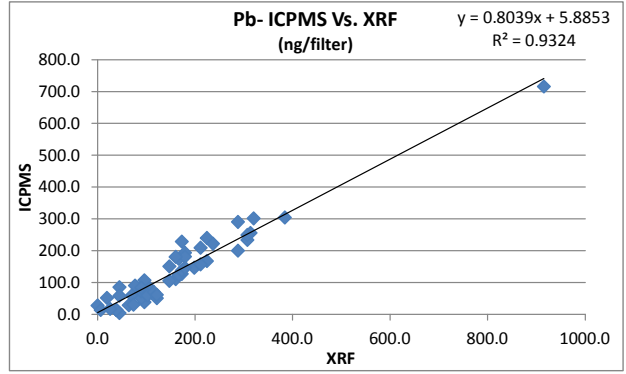
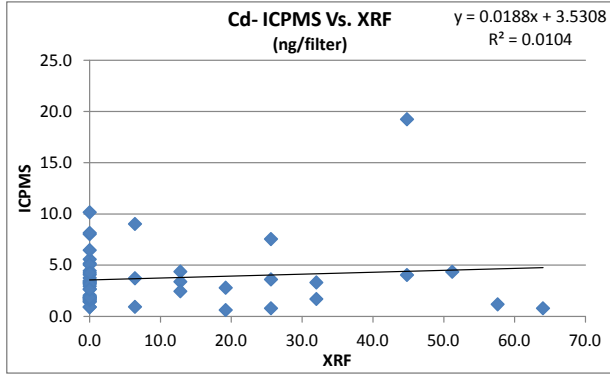
Comparison between the two methods was performed using 50 TSP filters from two sites from a previous project. These filters were run on the PANalytical Epsilon 5 EDXRF analyzer in accordance with SCAQMD S.O.P. #0004. The same filters were then digested in nitric acid and analyzed by ICP/MS in accordance with the SCAQMD S.O.P. #0005. Data from both methods were reported in µg/filter unit and compared to each other. Charts comparing these methods for selected metals are found below.

Results:

- Comparison for most metals was very good with slope in the range of 0.8 to 1.1.
- Metals such as Co, As, and Se did not fare well, primarily because the superior detection limit of ICP/MS over XRF. Almost all non-detect values by XRF were quantitatively reported by the ICP/MS. This was especially serious for Se where most XRF reported values are below the MDL.

Nickel overestimation by ICP/MS was determined to be caused by the ubiquitous and proportionally very high concentration of Calcium and Sodium which form interfering molecular ions in the plasma. The subsequent correction for Ni by changing the isotope of acquisition to 58 Amu from 60 Amu is described in section 3.6 and Appendix O.





APPENDIX O Nickel Analysis by ICP/MS

Background:

Average Nickel Basin-wide concentrations were found to be significantly higher during the first half of MATES IV when compared to same period during MATES III. This apparent increase in Nickel concentration occurred while all other metals either did not change or showed reduction in concentrations during the same period. This observation prompted a re-examination of the data.

Although quality control criteria were met for each of the batches analyzed by the ICP-MS, it became clear that an unknown interference with significant additive properties was responsible for the elevated values of Nickel. The target mass used in the ICP-MS determination of Nickel was 58 atomic mass units (AMU). The primary interferant was determined to be several molecular ions whose combined molecular weight equaled 58, including $^{23}\text{Na}^{35}\text{Cl}^+$, $^{40}\text{Ar}^{18}\text{O}^+$, $^{40}\text{Ca}^{18}\text{O}$, as well as other ions found at lower concentrations with smaller impacts. Once this was determined, the analysis method was changed such that ^{60}Ni isotope was selected as the target for analysis instead of ^{58}Ni .

Method:

The samples that were received after the method change to ^{60}Ni were analyzed and reported as is. All available filter samples and extracts previously analyzed with the ^{58}Ni target ion were re-analyzed using ^{60}Ni as the target isotope. These re-analyzed samples were then reported using the ^{60}Ni values. There were however a limited number of samples for which no filters or extracts were available. The re-analyzed samples generated data that was used to calculate an average ratio of $^{58}\text{Ni}/^{60}\text{Ni}$ concentration at each sampling site which was used to correct previously analyzed data from samples for which no filters or extracts were available to repeat the analysis under the new analytical condition. Instead of using one average ratio for all MATES IV sites, average ratios for each individual site were calculated and used to correct values at each respective site. Each of the initial concentration values was corrected by multiplying that value with appropriate site ratio. These interference corrected Nickel data have been flagged. The table below shows the ratio of ^{58}Ni to ^{60}Ni at each of the MATES IV sites.

Station	Average $^{58}\text{Ni}/^{60}\text{Ni}$
Anaheim	3.315
Burbank	4.233
Compton	2.813
Fontana	4.843
Hudson	3.338
Huntington Park	2.614
Long Beach	2.909
Los Angeles A	3.921
Pico Rivera	3.009
Rubidoux A	5.213

APPENDIX P QA/QC Matrix Summary

Process	Interval	Activity	Criteria	Corrective Action
Field Canister	Before & After Each	QC - Note Activities in Log Book, Canister	Notes For Each Canister	N/A
Sampler		QC - Check Chart Time	± 10 Minutes of Actual PST	AQIS Resets
	Annually	QC - Clean Manifold	Pass Leak Check	AM Support Repairs
		QC - Calibrate Flow	± 5 % True Flow	AM Operations Calibrates
	1 Day in 6	QA - Collocated Sample	10 % Of Network	Run A + B Make-Ups if Possible
	Annually	QA - ARB Through-the-Probe Audit	Within ± 25 % of True For all Compounds	Isolate & Repair, Validate Data
		QA - Flow Audit	Indicated Flow Must Be Within ± 10 % of True Flow	Notify Operations If Outside Limits, Delete Data
	Before & After Each	QC - Note Activities in Log Book	N/A	N/A
	Sampling Event	QC - Check Start & Stop Times & Volume	Note On Canisters Log Sheet	AQIS Resets Time
Field Carbonyl		QC - Clean Manifold	Pass Leak Check	AQIS Cleans & Tests
Sampler	Annually	QC - Calibrate Flow Controller	± 5 % True Flow	AM Operations Calibrates
If Equipment Available	1 Day in 6	QA - Collocated Sample	10 % of Network	Run A + B Make-Ups if Possible
	Annually	QA - Through-the-Probe Audit By ARB	Within ± 25 % of True For All Compounds	Isolate & Repair, Validate Data
		QA - Flow Audit	Indicated Flow Must be Within ± 10 % of True Flow	Notify Operations if Outside Limits, Delete Data
		QC - Chain-of-custody	Log Sheet & Cartridge Numbers Agree	Chemist Corrects Any Errors
		QC - Propane Peak	± 10 % Of Previous	Chemist Adjusts Span
	Daily	QC - System Blank	< 10 ppb/C Total NMOC	Chemist Repairs/ Leak Checks
		QC - Replicate Sample	Visual Evaluation of Chromatogram	Chemist Repairs/Leak Checks
Laboratory	Semiannually	QC - Replicate Standard Analysis	± 10 % on All Compounds	Chemist Repairs
		QC - Bias Check	2 ppb/C Per Compound	Chemist Repairs/Leak Checks
	Annually	QC - LOD Check	All Loads Must Be Less Than 1 ppb/C	Chemist Repairs/Rechecks
	1 Day In 6	QA - Collocated Samples	± 25 % On All Compounds	Chemist Repairs
	Quarterly	QA - Parallel Sampling	All Compounds Must Be Within ± 30 %	
	Annually	QA - NPAP Performance Audit	Within ± 30 % of True For All Compounds	Chemist Repairs
		QC - Standard Response	± 10 % of Previous	Chemist Repairs/Adjusts Span
	Daily	QC - Purge Cycle	System Pressure Between 800 & 1700 PSIG	Chemist Leak Checks
Laboratory	Semiannually	QC - Multipoint Calibration	± 10 % Of Previous	Chemist Develops New Calibration Curve
		QC - Bias Check	<3 ppb Per Compound	Chemist Repairs
	Annually	QC - LOD Check	<1 ppb Per Compound	Chemist Repairs/Leak Checks
	Quarterly	QA - Parallel Sampling	All Compounds Must Be Within ± 30 %	
	Annually	QA - NPAP Performance Audit	Within ± 30 % of True For All Compounds	Chemist Repairs
	Before & After Each	QC - Note the Maintenance Sheet, Log	Notes as Required	N/A
	Semiannually	QC - Change Motor & Multipoint	Create New Calibration Curve	N/A
		QC - Clean Inlet		
Field PM₁₀ SSI	Annually	QC - Timer Check	Timer Tested For Start With 20 Minutes of Setting & Elapsed	Repair or Replace
	1-Day-in- 6	QA - Collocate	Run At 10 % Of Sites	N/A
	Annually	QA - Flow Audit	Actual Flow Must be Within ± 10 % of True Flow	Request Repair; Investigate & Confirm Data Validity
		QC - Balance Checks		
aboratory	Daily	QC - Inspect Filters	No Light Leaks or Tears	
PM₁₀ SSI		QC - Equilibrate Filters		
	1 Day in 6	QA - Collocate Filters	Agreement Within ± 20 %, all Compounds	

APPENDIX IV
MATES IV
DRAFT FINAL REPORT

Summaries for the MATES IV Fixed Monitoring Sites

Appendix IV

Summaries for the MATES IV Fixed Monitoring Sites

IV.1 Method Detection Limit (MDL) and Data Reporting

Guidance for determination of the method detection limit (MDL) and data reporting was taken from the U. S. EPA's National Air Toxics Pilot City Monitoring Program. The MDL, as defined in 40 CFR Appendix B, Part 136, "Definition and Procedure for Determination of the Method Detection Limit" was used. The MDL is defined as the minimum concentration of a substance that can be measured and reported with 99% confidence that the analyte concentration is greater than zero and is determined from analysis of a sample in a given sample matrix containing the analyte (EPA, 2001) ¹

The AQMD Laboratory used this MDL determination method for the analyses conducted. It consists of seven replicate analyses of a sample containing the analyte of interest at a level not to exceed five times the projected MDL. A standard deviation is determined using results of the analysis. The standard deviation times 3.14 (from the Tables of Student's t Values at the 99% confidence level) is the reported MDL.

It was recognized by the Science Advisory Board (EPA, 2001) that just because a value is below the MDL does not mean the laboratory has not been able to measure a value, but rather the measurement has less reliability than others above the MDL. From this study, the convention is to report every value, even those below the MDL. These values were flagged as being below the MDL but above the Limit of Detection (LoD). For analytes that had concentrations that were below the LoD, no concentration is ascertained in the analysis; and the data are reported as zero.

In calculating the average concentrations, the reported analytical values are used. Other reporting conventions include reporting a value equal to ½ the MDL for all values below the MDL. However, this can lead to potential biases in calculating average values.

The station abbreviations used in the following tables are listed below.

Station	Abbreviation
Anaheim	AN
Burbank	BU
Central Los Angeles	LA
Compton	CO
Inland Valley San Bernardino	SB
Huntington Park	HP
North Long Beach	NLB
Pico Rivera	PR
Rubidoux	RU
West Long Beach	WLB

¹ Reference: Pilot City Air Toxics Measurements Summary, EPA454/R-01-003, February 2001

Method detection limits for the analytes are given in the Tables below

Analyte	ppb
2_Butanone	0.001
Acetaldehyde	0.008
Acetone	0.005
Formaldehyde	0.014
1,2-Dibromoethane	0.070
1,2-Dichlorobenzene	0.095
1,2-Dichloroethane	0.044
1,2-Dichloropropane	0.022
1,3-Butadiene	0.028
1,4-Dichlorobenzene	0.057
2-Butanone	0.022
2-Propenal	0.079
Acetone	0.053
Benzene	0.026
Carbon Tetrachloride	0.046
Chloroform	0.054
Ethylbenzene	0.050
m+p-Xylene	0.072
Methyl Tert Butyl Ether	0.051
Methylene Chloride	0.076
o-Xylene	0.065
Styrene	0.069
Tetrachloroethylene	0.065
Toluene	0.024
Trichloroethylene	0.072
Vinyl Chloride	0.051

Analyte	ng/M3
TSP Antimony	0.08
TSP Arsenic	0.09
TSP Barium	2.40
TSP Beryllium	0.09
TSP Cadmium	0.08
TSP Calcium	0.29
TSP Cesium	0.29
TSP Chromium	1.05
TSP Cobalt	0.12
TSP Copper	0.93
TSP Hexavalent Chromium	0.00
TSP Iron	0.29
TSP Lead	0.49
TSP Manganese	0.37
TSP Molybdenum	0.12
TSP Nickel	0.72
TSP Potassium	0.29
TSP Rubidium	0.29
TSP Selenium	0.87
TSP Strontium	0.21
TSP Tin	0.44
TSP Titanium	0.88
TSP Uranium	0.08
TSP Vanadium	0.20
TSP Zinc	0.29
PM10 EC	0.01
PM10 Mass	0.06
PM10 OC	0.10
PM10 TC	0.10

Analyte	ng/M3
PM _{2.5} Aluminum	42.20
PM _{2.5} Ammonium Ion	43.75
PM _{2.5} Antimony	59.83
PM _{2.5} Arsenic	13.08
PM _{2.5} Barium	123.19
PM _{2.5} Cadmium	42.75
PM _{2.5} Calcium	13.90
PM _{2.5} Cesium	154.49
PM _{2.5} Chloride Ion	150.00
PM _{2.5} Chlorine	12.44
PM _{2.5} Chromium	8.86
PM _{2.5} Cobalt	10.27
PM _{2.5} Copper	11.67
PM _{2.5} EC	37.50
PM _{2.5} Iron	15.83
PM _{2.5} Lead	22.23
PM _{2.5} Manganese	14.66
PM _{2.5} Mass	104.17
PM _{2.5} Nickel	8.03
PM _{2.5} Nitrate Ion	150.00
PM _{2.5} OC	500.00
PM _{2.5} Phosphorus	15.43
PM _{2.5} Potassium	7.16
PM _{2.5} Potassium Ion	81.25
PM _{2.5} Rubidium	13.33
PM _{2.5} Selenium	25.63
PM _{2.5} Silicon	28.75
PM _{2.5} Sodium Ion	15.63
PM _{2.5} Strontium	16.41
PM _{2.5} Sulfate Ion	150.00
PM _{2.5} Sulfur	31.35
PM _{2.5} TC	500.00
PM _{2.5} Tin	49.81
PM _{2.5} Titanium	17.48
PM _{2.5} Uranium	23.41
PM _{2.5} Vanadium	15.53
PM _{2.5} Yttrium	15.67
PM _{2.5} Zinc	8.37

Table IV-1 Ambient Concentrations (ppb) of Carbonyls at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Acetaldehyde	Avg	0.59	1.08	0.94	0.83	0.99	1.04	0.67	1.25	0.84	0.75
	SD	0.47	0.56	0.43	0.59	0.49	0.61	0.42	0.56	0.39	0.60
	N	60	59	59	60	59	57	59	59	59	55
	95% CI	0.12	0.15	0.11	0.15	0.13	0.16	0.11	0.15	0.10	0.16
	Max	3.07	2.70	2.00	2.94	2.44	2.94	2.07	2.61	1.95	2.79
	Min	0.11	0.22	0.32	0.02	0.21	0.41	0.18	0.42	0.12	0.15
Acetone	Avg	1.65	2.34	1.91	1.62	1.43	2.59	1.17	1.92	1.14	1.23
	SD	3.55	3.77	2.21	2.77	0.98	4.12	1.83	2.44	0.86	2.05
	N	59	59	59	60	59	57	59	60	59	55
	95% CI	0.93	0.98	0.58	0.72	0.26	1.09	0.48	0.63	0.23	0.56
	Max	21.79	19.47	9.97	12.45	4.77	19.75	8.95	11.38	5.05	9.93
	Min	0.02	0.10	0.08	0.06	0.08	0.11	0.10	0.15	0.14	0.02
Formaldehyde	Avg	1.19	2.58	2.93	2.05	2.63	2.73	1.86	2.81	2.00	1.55
	SD	0.82	1.13	0.99	0.81	1.19	0.95	0.71	1.04	1.10	0.95
	N	58	59	59	60	59	57	59	59	57	51
	95% CI	0.22	0.29	0.26	0.21	0.31	0.25	0.18	0.27	0.29	0.27
	Max	3.73	4.72	5.06	4.18	5.14	5.40	3.79	6.32	4.40	4.06
	Min	0.25	0.29	0.92	0.12	0.26	1.14	0.40	0.36	0.34	0.13
Methyl Ethyl Ketone	Avg	0.07	0.11	0.08	0.08	0.09	0.11	0.06	0.15	0.07	0.07
	SD	0.10	0.14	0.08	0.12	0.06	0.16	0.08	0.17	0.05	0.11
	N	57	59	59	59	58	57	59	60	59	53
	95% CI	0.03	0.04	0.02	0.03	0.01	0.04	0.02	0.04	0.01	0.03
	Max	0.57	0.62	0.35	0.55	0.23	0.77	0.39	0.76	0.29	0.47
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00

Table IV-2 Ambient Concentrations (ppb) of Organic Gases at the Fixed Sites

Pollutant	Period	Statistic	Measurement Site									
			AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Benzene		Avg	0.33	0.46	0.40	0.50	0.29	0.52	0.33	0.35	0.28	0.36
		SD	0.25	0.29	0.21	0.46	0.14	0.38	0.19	0.21	0.15	0.29
		N	51	55	51	57	53	53	54	57	52	57
		95% CI	0.07	0.08	0.06	0.12	0.04	0.10	0.05	0.05	0.04	0.08
		Max	1.33	1.23	1.15	1.77	0.91	1.72	0.84	0.91	0.91	1.17
		Min	0.08	0.17	0.13	0.11	0.10	0.02	0.11	0.10	0.11	0.07
1,3-Butadiene		Avg	0.08	0.11	0.10	0.12	0.05	0.14	0.07	0.07	0.06	0.07
		SD	0.09	0.11	0.07	0.15	0.05	0.13	0.07	0.07	0.06	0.09
		N	51	55	51	57	53	53	54	57	52	57
		95% CI	0.02	0.03	0.02	0.04	0.01	0.04	0.02	0.02	0.02	0.02
		Max	0.41	0.39	0.36	0.58	0.22	0.53	0.28	0.30	0.21	0.32
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Carbon Tetrachloride		Avg	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
		SD	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01	0.01
		N	47	49	45	51	49	47	50	51	49	53
		95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Max	0.12	0.11	0.11	0.11	0.11	0.10	0.11	0.11	0.11	0.11
		Min	0.06	0.06	0.06	0.07	0.06	0.06	0.06	0.06	0.06	0.06
Chloroform		Avg	0.04	0.05	0.04	0.03	0.04	0.03	0.03	0.04	0.04	0.03
		SD	0.02	0.03	0.02	0.01	0.02	0.02	0.01	0.02	0.01	0.01
		N	51	55	51	57	53	53	54	57	52	57
		95% CI	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
		Max	0.08	0.14	0.09	0.07	0.08	0.10	0.06	0.10	0.08	0.06
		Min	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.01	0.02	0.02

Table IV-2 Ambient Concentrations (ppb) of Organic Gases at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Dibromoethane	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,2-Dichlorobenzene	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.01	0.01	0.00	0.00	0.02	0.00	0.02	0.00	0.00
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.04	0.04	0.00	0.01	0.12	0.02	0.12	0.02	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,4-Dichlorobenzene	Avg	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.00	0.00	0.00
	SD	0.01	0.02	0.02	0.01	0.00	0.03	0.01	0.01	0.01	0.01
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.01	0.00	0.00	0.01	0.00	0.00	0.00	0.00
	Max	0.03	0.08	0.11	0.04	0.02	0.24	0.05	0.03	0.05	0.02
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
1,2-Dichloroethane	Avg	0.01	0.01	0.01	0.02	0.02	0.01	0.01	0.02	0.01	0.01
	SD	0.01	0.01	0.01	0.02	0.01	0.02	0.01	0.02	0.01	0.02
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.05	0.06	0.05	0.05	0.05	0.06	0.04	0.06	0.05	0.05
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-2 Ambient Concentrations (ppb) of Organic Gases at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
1,2-Dichloropropane	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00
	SD	0.01	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.02	0.00
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.03	0.02	0.03	0.00	0.01	0.01	0.01	0.01	0.06	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Ethylbenzene	Avg	0.12	0.18	0.72	0.20	0.11	0.24	0.11	0.12	0.15	0.13
	SD	0.12	0.14	0.74	0.21	0.07	0.24	0.07	0.09	0.10	0.14
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.03	0.04	0.21	0.06	0.02	0.07	0.02	0.02	0.03	0.04
	Max	0.63	0.58	4.75	0.81	0.42	1.43	0.32	0.35	0.43	0.73
	Min	0.00	0.04	0.11	0.00	0.00	0.01	0.04	0.00	0.04	0.00
Methylene Chloride	Avg	0.64	0.24	0.32	0.17	0.28	0.24	0.91	0.17	2.00	0.48
	SD	1.97	0.14	0.21	0.08	0.43	0.18	4.98	0.08	3.15	1.83
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.55	0.04	0.06	0.02	0.12	0.05	1.36	0.02	0.88	0.49
	Max	13.79	0.86	1.16	0.44	2.56	1.05	36.83	0.45	17.07	13.59
	Min	0.08	0.08	0.07	0.08	0.06	0.00	0.07	0.08	0.10	0.07
Methyl t-Butyl Ether	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-2 Ambient Concentrations (ppb) of Organic Gases at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Perchloroethylene	Avg	0.03	0.04	0.03	0.04	0.04	0.04	0.02	0.02	0.01	0.02
	SD	0.04	0.03	0.02	0.04	0.04	0.03	0.02	0.02	0.01	0.02
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.01	0.01	0.01	0.01	0.01	0.01	0.00	0.01	0.00	0.00
	Max	0.17	0.15	0.10	0.26	0.23	0.12	0.07	0.10	0.05	0.07
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Styrene	Avg	0.07	0.06	0.03	0.08	0.01	0.05	0.03	0.03	0.04	0.07
	SD	0.14	0.08	0.04	0.12	0.02	0.06	0.05	0.03	0.04	0.09
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.04	0.02	0.01	0.03	0.00	0.02	0.01	0.01	0.01	0.02
	Max	0.85	0.33	0.16	0.49	0.10	0.25	0.26	0.11	0.14	0.32
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Toluene	Avg	0.87	1.32	1.15	1.42	0.84	1.61	0.74	0.97	0.81	0.89
	SD	0.83	0.96	0.70	1.51	0.49	1.21	0.52	0.68	0.50	0.83
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.23	0.26	0.20	0.40	0.13	0.33	0.14	0.18	0.14	0.22
	Max	4.60	3.78	3.76	6.15	2.92	5.67	2.33	2.81	2.71	3.58
	Min	0.15	0.30	0.19	0.21	0.11	0.10	0.19	0.19	0.24	0.12
Trichloroethylene	Avg	0.00	0.01	0.02	0.00	0.00	0.01	0.00	0.00	0.00	0.00
	SD	0.01	0.01	0.03	0.01	0.01	0.01	0.00	0.01	0.01	0.01
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.03	0.07	0.10	0.03	0.04	0.03	0.01	0.07	0.03	0.07
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-2 Ambient Concentrations (ppb) of Organic Gases at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
(m+p)-Xylenes	Avg	0.40	0.61	2.50	0.67	0.35	0.86	0.34	0.39	0.38	0.43
	SD	0.42	0.50	2.48	0.76	0.23	1.01	0.25	0.28	0.25	0.46
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.12	0.14	0.70	0.20	0.06	0.28	0.07	0.07	0.07	0.12
	Max	2.31	2.19	16.22	3.06	1.42	6.62	1.09	1.08	1.03	2.53
	Min	0.07	0.13	0.37	0.07	0.06	0.06	0.08	0.07	0.10	0.05
o-Xylene	Avg	0.12	0.17	0.52	0.19	0.09	0.23	0.09	0.11	0.12	0.12
	SD	0.14	0.16	0.52	0.25	0.06	0.32	0.08	0.08	0.09	0.15
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.04	0.04	0.15	0.07	0.02	0.09	0.02	0.02	0.02	0.04
	Max	0.79	0.72	3.17	1.01	0.30	2.03	0.34	0.34	0.35	0.86
	Min	0.01	0.02	0.07	0.02	0.00	0.02	0.00	0.00	0.02	0.00
Vinyl Chloride	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	N	51	55	51	57	53	53	54	57	52	57
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Antimony	Avg	2.45	5.07	6.06	3.97	4.50	4.95	3.28	6.09	3.98	2.76
	SD	2.18	3.74	4.36	3.36	1.98	3.63	2.87	4.43	3.39	2.50
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.56	0.98	1.14	0.87	0.53	0.98	0.75	1.15	0.89	0.66
	Max	11.40	21.40	19.00	13.90	9.01	16.60	11.80	30.40	23.70	11.40
	Min	0.04	1.18	0.80	0.92	0.46	0.81	0.00	1.38	0.96	0.51
Arsenic	Avg	0.23	0.44	0.64	0.50	0.91	0.56	0.39	0.56	0.76	0.50
	SD	0.14	0.22	0.41	0.36	0.43	0.35	0.24	0.25	0.81	0.32
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.04	0.06	0.11	0.09	0.12	0.10	0.06	0.06	0.21	0.09
	Max	0.52	0.96	2.10	2.08	2.35	1.67	1.02	1.19	6.33	1.46
	Min	0.00	0.00	0.14	0.00	0.21	0.11	0.00	0.01	0.16	0.07
Barium	Avg	29.42	57.33	67.12	46.28	69.70	55.60	43.39	61.06	58.49	56.95
	SD	26.62	39.88	48.40	31.21	55.09	35.39	29.78	36.98	54.08	38.66
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	6.87	10.48	12.61	8.13	14.75	9.56	7.76	9.55	14.21	10.16
	Max	159.00	216.00	216.00	139.00	306.00	158.00	115.00	162.00	371.00	159.00
	Min	1.05	14.00	9.77	12.40	11.20	15.70	3.53	16.10	6.80	8.61
Beryllium	Avg	0.02	0.01	0.02	0.01	0.03	0.01	0.01	0.02	0.03	0.02
	SD	0.03	0.01	0.02	0.02	0.03	0.01	0.01	0.02	0.03	0.02
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00
	Max	0.15	0.05	0.08	0.09	0.10	0.05	0.06	0.08	0.23	0.09
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Cadmium	Avg	0.05	0.12	0.25	0.15	0.28	0.17	0.21	0.11	0.11	0.11
	SD	0.05	0.12	0.83	0.16	0.22	0.16	0.44	0.10	0.12	0.10
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.01	0.03	0.22	0.04	0.06	0.04	0.11	0.02	0.03	0.03
	Max	0.20	0.65	6.50	0.70	1.45	0.76	3.19	0.59	0.84	0.42
	Min	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.00	0.00	0.00
Calcium	Avg	640	903	1133	986	2332	1022	879	1149	2324	1303
	SD	584	554	852	613	2181	581	645	770	2072	988
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	151	145	222	159	583	157	168	198	544	259
	Max	3540	2880	4610	3090	11200	3420	3340	3800	9220	4640
	Min	103	169	248	257	325	330	96	211	230	157
Cesium	Avg	0.04	0.06	0.07	0.06	0.13	0.06	0.06	0.07	0.12	0.08
	SD	0.03	0.04	0.05	0.04	0.11	0.04	0.04	0.04	0.12	0.05
	N	41	39	40	40	39	40	41	42	39	41
	95% CI	0.01	0.01	0.02	0.01	0.04	0.01	0.01	0.01	0.04	0.02
	Max	0.13	0.16	0.26	0.20	0.63	0.21	0.19	0.22	0.67	0.23
	Min	0.01	0.01	0.01	0.01	0.02	0.01	0.00	0.00	0.01	0.01
Chromium	Avg	1.91	3.15	3.74	3.66	5.54	5.28	3.72	3.53	4.19	3.36
	SD	0.97	1.56	1.54	2.33	3.38	7.44	6.05	1.54	4.14	1.77
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.25	0.41	0.40	0.61	0.90	2.01	1.58	0.40	1.09	0.47
	Max	4.60	7.94	6.92	13.10	19.90	49.50	47.70	8.17	31.50	8.83
	Min	0.37	0.88	0.48	1.05	0.99	1.19	0.28	1.08	0.40	0.49

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Chromium Hexavalent	Avg	0.03	0.04	0.07	0.11	0.04	0.10	0.04	0.05	0.04	0.03
	SD	0.02	0.03	0.06	0.14	0.03	0.24	0.04	0.03	0.04	0.03
	N	60	57	59	60	58	55	60	61	59	58
	95% CI	0.00	0.01	0.02	0.04	0.01	0.07	0.01	0.01	0.01	0.01
	Max	0.09	0.19	0.39	0.85	0.12	1.80	0.20	0.17	0.25	0.14
	Min	0.00	0.01	0.01	0.01	0.00	0.01	0.00	0.01	0.00	0.00
Cobalt	Avg	0.20	0.48	0.42	0.41	0.79	0.46	0.36	0.46	0.64	0.56
	SD	0.15	0.34	0.21	0.24	0.43	0.32	0.23	0.24	0.52	0.54
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.04	0.09	0.05	0.06	0.11	0.09	0.06	0.06	0.14	0.14
	Max	0.66	1.92	1.00	1.04	1.96	1.74	0.98	1.26	3.57	3.70
	Min	0.00	0.00	0.00	0.00	0.13	0.14	0.00	0.05	0.06	0.08
Copper	Avg	17.35	38.05	42.18	29.62	42.48	49.69	31.98	46.86	33.45	31.65
	SD	15.74	26.35	32.87	20.14	28.48	40.28	59.06	34.38	26.87	35.46
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	4.06	6.93	8.56	5.25	7.62	10.89	15.38	8.88	7.06	9.32
	Max	74.10	127.00	160.00	87.40	147.00	261.00	459.00	140.00	162.00	251.00
	Min	1.12	7.55	5.69	9.70	4.73	9.03	2.60	8.04	4.53	4.50
Iron	Avg	613	1157	1424	1153	2727	1244	1037	1474	2148	1495
	SD	613	691	1042	701	2421	770	792	969	1888	1145
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	158	182	272	183	648	208	206	250	496	301
	Max	4050	3310	5560	3000	11600	3660	3920	4470	9440	5730
	Min	43	215	192	216	344	367	57	222	149	152

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Lead	Avg	2.11	5.27	7.34	6.24	9.80	9.46	4.39	5.89	6.21	5.83
	SD	1.28	2.84	3.35	4.10	4.79	10.76	2.31	2.43	4.52	5.90
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.33	0.75	0.87	1.07	1.28	2.91	0.60	0.63	1.19	1.55
	Max	6.84	16.80	15.60	20.10	19.30	81.70	13.00	12.60	32.30	43.30
	Min	0.03	1.28	1.62	2.20	1.43	2.81	0.00	1.68	1.31	1.22
Manganese	Avg	8.32	15.21	19.20	18.62	51.97	22.73	14.37	21.16	32.99	21.28
	SD	5.42	8.36	8.91	12.69	30.04	20.89	8.30	9.94	25.08	13.18
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	1.40	2.20	2.32	3.31	8.04	5.65	2.16	2.57	6.59	3.47
	Max	28.30	40.20	38.80	77.50	120.00	103.00	42.60	40.30	178.00	61.70
	Min	0.80	3.30	3.92	3.99	6.63	6.37	0.13	3.68	2.58	2.84
Molybdenum	Avg	0.83	1.81	3.36	1.90	2.13	2.39	1.74	1.66	1.39	1.58
	SD	0.63	1.13	2.61	1.42	1.78	2.62	1.66	1.09	1.25	1.35
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.16	0.30	0.68	0.37	0.48	0.71	0.43	0.28	0.33	0.35
	Max	2.84	5.27	12.60	6.62	9.78	17.00	7.25	5.88	8.48	7.35
	Min	0.17	0.46	0.25	0.35	0.36	0.56	0.08	0.42	0.24	0.35
Nickel	Avg	1.74	3.90	3.37	4.06	4.05	5.40	3.59	4.47	3.35	3.73
	SD	1.03	7.66	3.65	2.60	2.28	6.98	2.65	2.66	2.48	2.10
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.27	2.01	0.95	0.68	0.61	1.89	0.69	0.69	0.65	0.55
	Max	5.80	44.50	29.40	13.70	13.37	50.00	14.80	17.50	14.62	13.00
	Min	0.27	0.56	0.75	0.99	0.33	1.45	0.04	1.06	0.31	0.59

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Potassium	Avg	250	320	382	398	812	371	357	454	985	475
	SD	217	191	284	237	814	224	269	318	964	356
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	56	50	74	62	218	61	70	82	253	94
	Max	1150	998	1490	1240	4420	1350	1350	1470	4170	1920
	Min	6	79	63	82	85	90	0	87	83	61
Rubidium	Avg	0.62	1.13	1.11	1.16	2.24	1.14	0.93	1.24	2.18	1.44
	SD	0.37	0.72	0.66	0.68	1.47	0.66	0.58	0.75	1.52	1.00
	N	41	39	40	40	39	40	41	42	39	41
	95% CI	0.12	0.23	0.21	0.22	0.48	0.21	0.18	0.23	0.49	0.32
	Max	1.63	3.24	3.41	2.77	5.77	3.39	2.07	3.18	5.57	4.48
	Min	0.10	0.18	0.18	0.16	0.33	0.24	0.00	0.00	0.20	0.15
Selenium	Avg	0.44	0.54	0.95	0.80	0.75	1.67	0.76	0.98	0.73	0.63
	SD	0.31	0.39	0.65	0.72	0.45	1.96	1.19	0.67	0.66	0.68
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.08	0.10	0.17	0.19	0.12	0.53	0.31	0.17	0.17	0.18
	Max	1.46	1.73	2.52	5.21	2.14	12.60	9.26	3.32	4.06	5.19
	Min	0.00	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.00	0.00
Strontium	Avg	7.27	10.90	16.11	10.86	17.82	11.91	9.60	12.73	20.14	15.56
	SD	6.31	6.36	11.47	6.13	15.57	6.91	6.32	7.92	17.34	11.69
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	1.63	1.67	2.99	1.60	4.17	1.87	1.65	2.05	4.56	3.07
	Max	37.60	34.00	58.80	33.00	75.30	40.50	28.50	36.90	83.80	56.00
	Min	0.28	2.61	2.11	2.28	2.79	3.43	1.14	2.90	1.79	2.55

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Tin	Avg	1.89	5.26	6.50	2.86	3.97	5.83	3.25	20.04	2.89	2.55
	SD	1.53	3.42	5.36	2.01	3.26	6.42	4.51	71.12	2.35	1.95
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.40	0.90	1.40	0.52	0.87	1.73	1.18	18.37	0.62	0.51
	Max	7.70	18.40	31.10	8.93	17.70	33.50	32.80	549.00	13.20	8.63
	Min	0.13	1.07	0.93	0.80	0.27	0.83	0.60	0.84	0.82	0.57
Titanium	Avg	30.00	53.92	59.71	58.81	145.75	56.17	51.55	71.50	132.87	73.14
	SD	28.48	32.44	43.60	34.92	133.47	34.11	42.50	49.85	119.57	60.83
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	7.35	8.53	11.36	9.10	35.73	9.22	11.07	12.87	31.43	15.99
	Max	183.00	147.00	221.00	145.00	636.00	169.00	215.00	238.00	554.00	324.00
	Min	3.19	9.58	7.62	10.30	15.10	14.80	4.49	7.87	7.27	5.83
Uranium	Avg	0.04	0.05	0.06	0.04	0.10	0.04	0.04	0.06	0.10	0.05
	SD	0.05	0.04	0.05	0.04	0.09	0.03	0.03	0.07	0.10	0.05
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.01	0.01	0.01	0.01	0.02	0.01	0.01	0.02	0.03	0.01
	Max	0.24	0.18	0.25	0.24	0.54	0.11	0.19	0.46	0.61	0.29
	Min	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00
Vanadium	Avg	1.81	2.10	2.64	3.14	5.63	2.67	3.53	3.11	4.72	4.58
	SD	2.82	1.20	1.95	1.73	5.44	1.50	3.06	2.32	4.48	3.38
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	0.73	0.32	0.51	0.45	1.46	0.40	0.80	0.60	1.18	0.89
	Max	21.10	6.09	10.00	8.50	28.10	8.08	12.30	11.10	22.30	18.00
	Min	0.06	0.47	0.28	0.91	0.54	0.44	0.00	0.55	0.37	0.72

Table IV-3 Ambient Concentrations (ng/m³) of TSP Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Zinc	Avg	43.40	53.74	72.38	54.11	109.69	74.11	61.05	73.01	64.27	71.74
	SD	44.44	32.47	52.21	32.62	91.64	57.20	50.33	57.39	44.44	49.45
	N	60	58	59	59	56	55	59	60	58	58
	95% CI	11.48	8.53	13.60	8.50	24.53	15.46	13.11	14.82	11.68	13.00
	Max	219.00	162.00	264.00	138.00	496.00	305.00	267.00	351.00	250.00	225.00
	Min	1.46	11.10	14.00	15.60	20.10	29.10	11.40	16.60	13.70	11.20

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Aluminum	Avg	42.20	44.59	48.17	41.20	71.22	48.18	44.90	50.57	56.42	64.18
	SD	38.01	28.33	43.45	42.68	47.98	48.41	45.42	33.07	39.90	57.61
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	9.90	7.45	11.32	10.93	12.39	12.84	11.63	8.69	10.30	14.75
	Max	176.00	119.00	214.00	286.00	286.00	317.00	285.00	130.00	161.00	290.00
	Min	0.00	0.00	0.00	0.00	8.00	0.00	0.00	0.00	0.00	0.00
Antimony	Avg	19.61	19.52	18.83	18.44	17.63	20.02	19.36	15.16	19.48	18.77
	SD	17.72	16.36	17.38	14.41	14.76	15.45	17.37	15.04	15.69	16.95
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	4.62	4.30	4.53	3.69	3.81	4.10	4.45	3.95	4.05	4.34
	Max	72.00	69.00	59.00	54.00	59.00	53.00	61.00	55.00	65.00	63.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Arsenic	Avg	0.15	0.21	0.08	0.34	0.20	0.18	0.41	0.28	0.33	0.11
	SD	0.74	0.64	0.47	1.21	0.71	0.57	1.60	0.89	1.08	0.49
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.19	0.17	0.12	0.31	0.18	0.15	0.41	0.24	0.28	0.12
	Max	4.00	3.00	3.00	8.00	4.00	2.00	11.00	4.00	6.00	3.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Barium	Avg	33.76	41.81	45.37	34.15	35.98	33.65	35.87	38.50	30.58	35.21
	SD	34.39	32.18	32.91	29.89	28.31	23.68	30.17	28.67	25.70	28.17
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	8.96	8.46	8.57	7.65	7.31	6.28	7.72	7.54	6.64	7.21
	Max	206.00	173.00	135.00	115.00	97.00	96.00	118.00	89.00	89.00	107.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Period	Statistic	Measurement Site									
			AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Cadmium		Avg	13.86	12.57	13.83	13.93	12.93	13.67	14.57	13.00	13.33	11.61
		SD	6.51	7.47	5.93	6.94	5.64	5.96	5.98	6.90	7.11	5.67
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	1.70	1.96	1.55	1.78	1.46	1.58	1.53	1.81	1.84	1.45
		Max	33.00	31.00	30.00	41.00	26.00	29.00	31.00	27.00	34.00	32.00
		Min	0.70	0.00	2.00	0.00	2.00	4.00	4.00	0.00	3.00	0.00
Calcium		Avg	45.00	55.34	53.14	41.77	91.97	51.04	45.99	51.21	72.80	79.72
		SD	30.88	33.50	44.96	41.22	74.81	33.52	33.18	32.84	51.41	64.83
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	8.05	8.81	11.71	10.55	19.32	8.89	8.50	8.63	13.28	16.60
		Max	166.00	132.00	298.00	259.00	424.00	142.00	194.00	138.00	260.00	288.00
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.00
Cesium		Avg	58.29	62.21	55.11	62.87	55.88	63.75	57.33	58.84	64.18	58.61
		SD	29.65	40.44	34.34	38.45	30.21	36.70	36.16	33.43	33.38	33.81
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	7.73	10.63	8.95	9.84	7.80	9.73	9.26	8.79	8.62	8.66
		Max	156.00	153.00	143.00	145.00	146.00	160.00	160.00	142.00	144.00	141.00
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Chromium Total		Avg	1.15	1.64	1.68	1.86	1.09	5.42	3.28	1.60	1.49	1.64
		SD	1.43	1.95	2.86	1.86	1.10	11.01	9.86	2.51	1.80	2.33
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	0.37	0.51	0.74	0.48	0.28	2.92	2.52	0.66	0.47	0.60
		Max	6.00	11.00	20.00	8.00	4.00	68.00	76.00	18.00	10.00	14.00
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Cobalt	Avg	0.81	0.83	0.59	0.61	0.68	0.73	0.72	0.52	0.61	0.62
	SD	0.97	1.28	1.07	0.92	1.00	1.17	0.94	0.84	0.92	0.91
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.25	0.34	0.28	0.23	0.26	0.31	0.24	0.22	0.24	0.23
	Max	3.00	5.00	7.00	4.00	5.00	4.00	4.00	3.00	4.00	4.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Copper	Avg	6.63	9.31	9.54	6.90	9.87	14.66	5.77	13.03	6.22	7.24
	SD	6.82	6.44	6.96	6.35	7.07	23.73	5.47	6.84	3.81	7.73
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	1.78	1.69	1.81	1.63	1.83	6.29	1.40	1.80	0.98	1.98
	Max	35.00	28.00	30.00	33.00	51.00	175.00	24.00	29.00	21.00	44.00
	Min	0.00	0.00	0.00	0.00	0.00	0.90	0.00	4.00	0.00	0.00
Iron	Avg	99	147	156	91	184	139	96	138	119	148
	SD	107	97	121	116	114	138	90	90	80	159
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	28	26	31	30	29	37	23	24	21	41
	Max	608	472	653	716	657	612	399	379	474	1060
	Min	2	41	20	14	31	24	23	39	25	19
Lead	Avg	6.04	6.05	6.56	6.92	8.15	7.84	7.00	5.97	6.61	6.69
	SD	3.78	3.65	3.57	4.50	4.60	3.97	3.96	4.00	4.18	5.75
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.99	0.96	0.93	1.15	1.19	1.05	1.02	1.05	1.08	1.47
	Max	17.00	14.00	14.00	17.00	17.00	18.00	18.00	18.00	17.00	33.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Manganese	Avg	3.31	2.38	4.51	2.64	5.49	6.94	3.52	4.73	2.83	3.32
	SD	5.29	3.83	5.72	3.99	7.80	14.18	4.94	5.88	4.49	5.17
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	1.38	1.01	1.49	1.02	2.01	3.76	1.26	1.54	1.16	1.32
	Max	23.00	14.00	22.00	14.00	32.00	82.00	16.00	23.00	17.00	18.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Nickel	Avg	1.16	1.27	1.39	1.29	1.03	2.39	1.57	1.56	1.27	1.46
	SD	1.42	2.09	1.93	1.63	1.34	4.60	3.30	1.88	1.47	2.91
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.37	0.55	0.50	0.42	0.35	1.22	0.85	0.49	0.38	0.74
	Max	5.00	13.00	8.00	8.00	5.00	32.00	24.00	8.00	5.00	20.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Phosphorous	Avg	14.96	18.16	19.42	17.66	18.09	20.21	16.13	17.72	17.16	16.85
	SD	13.14	15.75	15.86	14.09	15.66	16.46	13.81	13.81	13.93	12.62
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	3.42	4.14	4.13	3.61	4.04	4.37	3.54	3.63	3.60	3.23
	Max	48.00	64.00	69.00	54.00	55.00	74.00	60.00	46.00	52.00	49.00
	Min	0.00	0.00	0.00	0.00	0.00	0.40	0.05	0.00	0.00	0.00
Potassium	Avg	68.53	75.00	70.07	71.15	74.43	70.35	61.18	73.72	74.85	71.77
	SD	44.47	37.06	34.13	49.14	39.97	39.31	33.68	34.57	33.73	42.84
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	11.58	9.74	8.89	12.58	10.32	10.43	8.62	9.09	8.71	10.97
	Max	290.00	191.00	213.00	229.00	187.00	203.00	152.00	176.00	183.00	245.00
	Min	22.00	20.00	12.00	13.00	15.00	17.00	16.00	26.00	27.00	21.00

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Rubidium	Avg	0.06	0.02	0.04	0.03	0.03	0.01	0.00	0.04	0.01	0.03
	SD	0.20	0.13	0.18	0.16	0.13	0.03	0.00	0.16	0.04	0.26
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.05	0.03	0.05	0.04	0.03	0.01	0.00	0.04	0.01	0.07
	Max	1.00	1.00	1.00	1.00	0.70	0.20	0.00	1.00	0.30	2.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Selenium	Avg	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	SD	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Max	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Silicon	Avg	80.85	102.09	100.56	79.57	160.83	103.30	82.16	95.07	129.85	134.56
	SD	68.66	62.49	79.89	99.73	109.70	83.73	89.60	60.15	82.56	119.39
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	17.89	16.42	20.81	25.53	28.33	22.21	22.94	15.81	21.32	30.57
	Max	300.00	268.00	399.00	664.00	615.00	398.00	552.00	223.00	352.00	567.00
	Min	0.00	8.00	0.00	0.00	7.00	3.00	0.00	14.00	2.00	11.00
Strontium	Avg	3.14	2.93	3.53	1.82	2.45	2.24	1.93	2.72	2.54	3.38
	SD	3.66	2.26	3.82	1.94	1.89	2.00	1.85	2.20	2.27	4.83
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	0.95	0.59	0.99	0.50	0.49	0.53	0.47	0.58	0.58	1.24
	Max	24.00	8.00	25.00	5.00	8.00	7.00	7.00	7.00	8.00	35.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Capture										

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Sulfur	Avg	520	518	554	547	501	591	558	546	474	595
	SD	318	327	363	347	341	368	347	335	301	346
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	83	86	94	89	88	98	89	88	78	88
	Max	1320	1260	1720	1480	1350	1640	1470	1510	1100	1670
	Min	94	90	88	93	40	97	103	110	74	105
Tin	Avg	25.25	26.09	26.80	27.64	25.68	27.86	25.38	47.33	25.55	24.54
	SD	11.30	12.13	11.03	16.48	10.28	14.31	10.67	124.68	11.09	11.27
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	2.94	3.19	2.87	4.22	2.66	3.80	2.73	32.77	2.86	2.88
	Max	61.00	63.00	59.00	81.00	58.00	77.00	52.00	966.00	53.00	55.00
	Min	5.00	0.00	7.00	0.00	6.00	5.00	8.00	5.00	6.00	0.00
Titanium	Avg	5.85	8.01	8.81	6.80	8.34	7.18	8.67	8.17	5.98	9.62
	SD	5.68	5.43	6.49	8.40	7.05	6.22	13.06	6.88	4.52	13.83
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	1.48	1.43	1.69	2.15	1.82	1.65	3.34	1.81	1.17	3.54
	Max	32.00	24.00	30.00	45.00	34.00	29.00	55.00	30.00	26.00	77.00
	Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Uranium	Avg	10.60	10.60	10.42	11.33	10.45	10.02	10.92	10.74	11.52	11.49
	SD	7.16	7.49	7.11	8.41	7.34	7.43	7.66	7.99	8.32	8.10
	N	59	58	59	61	60	57	61	58	60	61
	95% CI	1.87	1.97	1.85	2.15	1.90	1.97	1.96	2.10	2.15	2.07
	Max	32.00	31.00	27.00	33.00	34.00	29.00	31.00	32.00	33.00	31.00
	Min	0.50	1.00	1.00	0.00	1.00	0.00	2.00	1.00	1.00	0.00

Table IV-4 Ambient Concentrations (ng/m³) of PM_{2.5} Components at the Fixed Sites

Pollutant	Period	Statistic	Measurement Site									
			AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
Vanadium		Avg	0.37	0.22	0.47	0.46	0.29	0.36	0.56	0.43	0.33	0.60
		SD	0.76	0.49	0.84	0.73	0.72	0.62	1.08	1.01	0.78	1.10
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	0.20	0.13	0.22	0.19	0.18	0.16	0.28	0.27	0.20	0.28
		Max	4.00	2.00	3.00	3.00	4.00	2.00	4.00	6.00	4.00	5.00
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Yttrium		Avg	1.12	0.93	1.04	1.04	1.08	1.32	0.93	0.94	1.50	1.28
		SD	1.51	1.16	1.26	1.25	1.25	1.35	1.05	1.11	1.62	1.59
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	0.39	0.31	0.33	0.32	0.32	0.36	0.27	0.29	0.42	0.41
		Max	8.00	5.00	5.00	5.00	5.00	6.00	4.00	4.00	7.00	7.00
		Min	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Zinc		Avg	21.42	9.26	11.05	10.23	24.34	19.44	13.76	17.82	10.44	12.58
		SD	40.93	7.62	11.19	12.37	17.10	31.54	15.84	44.42	11.09	14.73
		N	59	58	59	61	60	57	61	58	60	61
		95% CI	10.66	2.00	2.92	3.17	4.42	8.36	4.06	11.67	2.86	3.77
		Max	210.00	36.00	58.00	61.00	72.00	189.00	72.00	332.00	56.00	64.00
		Min	0.00	0.00	0.00	0.00	0.06	0.00	0.00	0.00	0.00	0.00

Table IV-5 Ambient PM₁₀ Carbon Concentrations (ug/m³) at the Fixed Sites

Pollutant	Period	Statistic	Measurement Site									
			AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
PM ₁₀ Mass		Avg	22.46	26.16	27.30	26.26	35.64	27.37	22.40	27.32	33.45	30.02
		SD	7.19	8.44	8.84	8.87	15.37	8.25	7.25	8.74	13.14	13.01
		N	61	57	60	57	61	52	60	50	60	51
		95% CI	1.84	2.24	2.28	2.35	3.94	2.29	1.87	2.48	3.39	3.66
		Max	43.00	40.00	45.00	52.00	63.00	41.00	36.00	48.00	66.00	78.00
		Min	8.00	6.00	7.00	9.00	7.00	8.00	6.00	11.00	11.00	8.00
PM ₁₀ Elemental Carbon		Avg	1.17	1.74	1.67	1.50	1.74	1.65	1.29	1.87	1.48	1.78
		SD	0.87	1.02	0.93	1.21	0.81	1.05	0.88	0.99	0.75	1.32
		N	61	57	60	57	61	52	58	50	59	51
		95% CI	0.22	0.27	0.24	0.32	0.21	0.29	0.23	0.28	0.20	0.37
		Max	4.76	4.54	4.24	4.68	3.98	5.15	3.69	4.39	3.96	5.98
		Min	0.26	0.54	0.52	0.29	0.33	0.66	0.30	0.58	0.57	0.38
PM ₁₀ Organic Carbon		Avg	3.71	4.86	4.44	4.44	5.32	4.54	3.64	4.82	5.29	4.45
		SD	1.52	1.79	1.48	2.36	1.73	1.75	1.57	1.57	1.58	2.45
		N	61	57	60	57	61	52	58	50	59	51
		95% CI	0.39	0.47	0.38	0.63	0.44	0.49	0.41	0.45	0.41	0.69
		Max	9.32	10.30	8.22	12.10	9.27	9.26	7.96	9.28	9.17	12.20
		Min	1.79	2.38	2.13	1.84	2.05	2.44	1.70	2.43	3.02	1.60
PM ₁₀ Total Carbon		Avg	4.88	6.60	6.12	5.94	7.05	6.19	4.92	6.69	6.77	6.23
		SD	2.35	2.76	2.37	3.53	2.46	2.75	2.42	2.50	2.14	3.71
		N	61	57	60	57	61	52	58	50	59	51
		95% CI	0.60	0.73	0.61	0.94	0.63	0.76	0.64	0.71	0.56	1.04
		Max	14.10	14.20	12.40	16.80	12.90	13.60	11.60	13.70	13.10	18.20
		Min	2.05	3.06	2.64	2.27	2.42	3.27	2.06	3.01	3.68	1.98

Table IV-6 Ambient PM_{2.5} Carbon Concentrations (ug/m³) at the Fixed Sites

Pollutant	Statistic	Measurement Site									
		AN	BU	LA	CP	SB	HP	NLB	PR	RU	WLB
PM _{2.5} Mass	Avg	12.37	14.40	14.14	12.91	14.33	14.40	12.95	14.21	13.83	13.21
	SD	4.45	5.00	4.94	4.96	6.20	5.62	4.47	4.75	5.58	4.58
	N	59	59	59	61	60	57	61	58	61	60
	95% CI	1.16	1.30	1.29	1.27	1.60	1.49	1.14	1.25	1.43	1.18
	Max	31.64	27.89	27.37	29.59	34.08	35.40	27.05	29.52	30.27	28.11
	Min	5.47	3.31	4.13	2.58	4.45	4.33	4.34	6.61	4.75	4.96
PM _{2.5} Elemental Carbon	Avg	0.90	1.32	1.23	1.06	1.36	1.28	0.90	1.40	1.11	1.13
	SD	0.90	1.07	0.87	1.11	0.88	1.08	0.97	0.97	0.69	1.18
	N	59	58	60	61	60	59	61	59	61	61
	95% CI	0.24	0.28	0.22	0.28	0.23	0.28	0.25	0.25	0.18	0.30
	Max	3.90	4.60	3.80	4.70	5.00	5.40	3.50	4.70	3.40	4.90
	Min	0.08	0.18	0.30	0.12	0.02	0.06	0.02	0.13	0.24	0.08
PM _{2.5} Organic Carbon	Avg	3.74	4.81	4.47	4.00	4.84	4.68	3.59	4.68	4.62	3.67
	SD	1.53	1.75	1.48	1.97	1.83	1.85	1.84	1.63	1.50	1.94
	N	59	58	60	61	60	59	61	59	61	61
	95% CI	0.40	0.46	0.38	0.50	0.47	0.48	0.47	0.42	0.38	0.50
	Max	8.00	9.50	8.10	10.00	11.00	10.00	11.00	10.00	9.80	9.90
	Min	1.50	2.10	1.90	1.50	1.50	1.90	1.20	2.00	1.90	1.00
PM _{2.5} Total Carbon	Avg	4.64	6.12	5.70	5.06	6.20	5.97	4.47	6.06	5.75	4.82
	SD	2.33	2.70	2.22	3.05	2.62	2.84	2.70	2.42	1.94	3.11
	N	59	58	60	61	60	59	61	59	61	61
	95% CI	0.61	0.71	0.57	0.78	0.68	0.74	0.69	0.63	0.50	0.80
	Max	12.00	14.00	12.00	15.00	17.00	15.00	14.00	14.00	12.00	15.00
	Min	1.70	2.30	2.30	1.60	1.50	2.20	1.20	2.20	2.20	1.30

APPENDIX V
MATES IV
DRAFT FINAL REPORT

**Comparison Between the
West Long Beach Sites in MATES III and MATES IV**

Author

Kalam Cheung

Table V-1. Average concentration of selected PM, VOC and carbonyl species, their respective 95% confidence interval, and the p-value for the difference between the mean at the MATES III and MATES IV West Long Beach sites.

	PM2.5 Mass ($\mu\text{g}/\text{m}^3$)	PM2.5 OC ($\mu\text{g}/\text{m}^3$)	PM2.5 EC ($\mu\text{g}/\text{m}^3$)	Nitrate ($\mu\text{g}/\text{m}^3$)	Sulfate ($\mu\text{g}/\text{m}^3$)	1,3-Butadiene (ppb)	Benzene (ppb)	Formaldehyde (ppb)	Acetaldehyde (ppb)
MATES III WLB Site	17.6 \pm 2.0	6.50 \pm 0.82	2.22 \pm 0.44	3.07 \pm 0.70	3.67 \pm 0.55	0.048 \pm 0.01	0.39 \pm 0.06	2.47 \pm 0.27	0.98 \pm 0.14
MATES IV WLB Site	18.5 \pm 2.1	6.30 \pm 0.74	2.77 \pm 0.51	3.34 \pm 0.78	3.87 \pm 0.57	0.058 \pm 0.01	0.39 \pm 0.07	2.50 \pm 0.23	1.24 \pm 0.15
p-value	0.26	0.36	0.06	0.31	0.32	0.15	0.45	0.44	0.01

Table V-2 shows the correlation coefficient (R), slope (m) and number of data point (n) from the linear regression analyses between the two stations for the PM, VOC and carbonyl species. The associations are high ($R > 0.80$) with the exception of OC and sulfate. For OC, the agreement improves considerably in 2008 ($R = 0.85$, $m = 0.76$, $n = 31$). The moderate association of sulfate is mainly driven by a few outliers. With the removal of four outliers out of 63 data points, the correlation is good ($R = 0.80$, $m = 0.83$).

Table V-2. Correlation coefficient (R), slope (m) and number of data point (n) from linear regression analyses between the MATES III and MATES IV West Long Beach sites.

	PM2.5 Mass	PM2.5 OC	PM2.5 EC	Nitrate	Sulfate	1,3-Butadiene	Benzene	Formaldehyde	Acetaldehyde
R	0.92	0.46	0.89	0.85	0.68	0.94	0.91	0.91	0.94
m	0.90	0.40	1.02	0.94	0.68	1.19	1.00	0.77	0.97
n	72	68	67	64	63	84	86	90	90

The scatterplots between the two monitoring stations, segregated by year, are presented in Figures V-2 to V-10. Overall, the concentrations of PM, VOC and carbonyl species at MATES IV WLB correlate well with those from MATES III WLB.

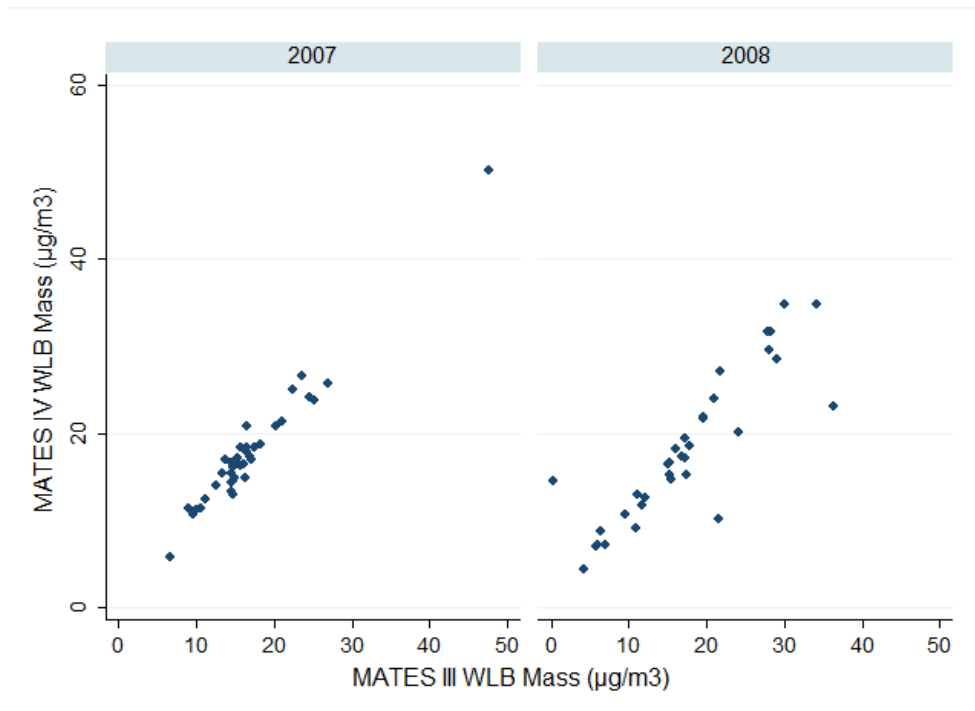


Figure V-2. Scatterplot of PM_{2.5} mass concentration between the MATES III and MATES IV West Long Beach sites.

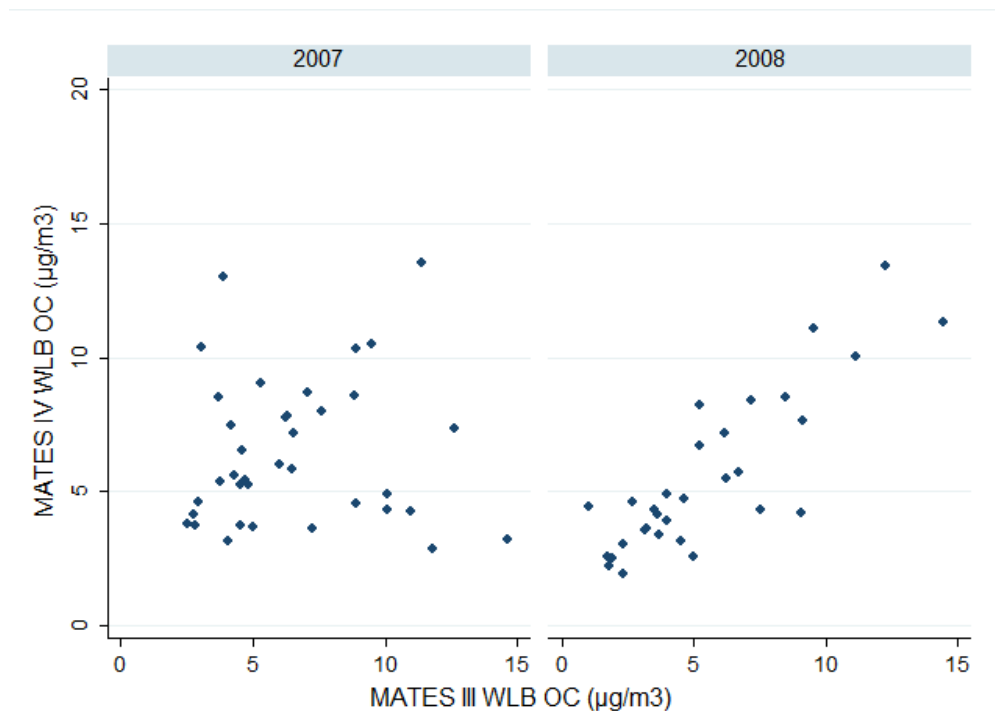


Figure V-3. Scatterplot of PM_{2.5} OC concentration between the MATES III and MATES IV West Long Beach sites.

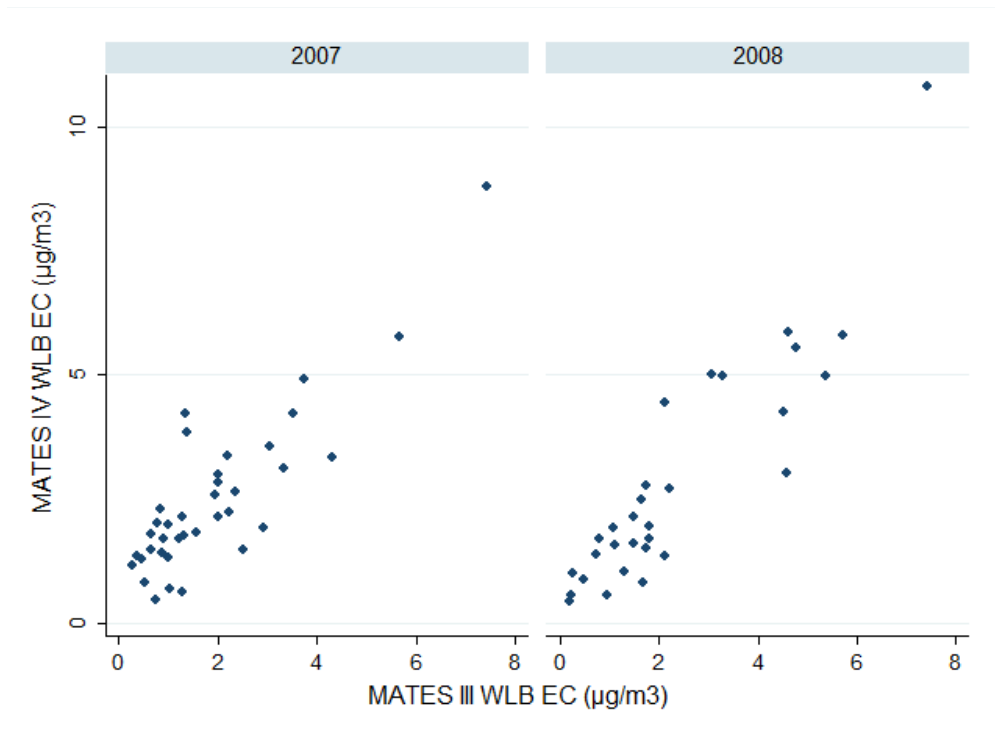


Figure V-4. Scatterplot of PM_{2.5} EC concentration between the MATES III and MATES IV West Long Beach sites.

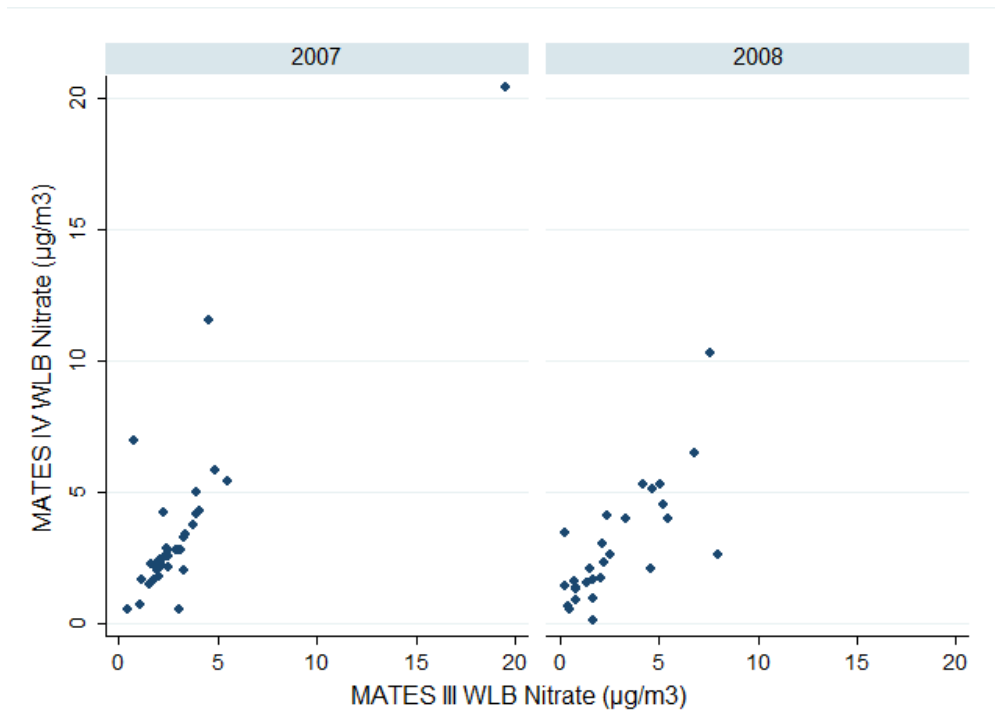


Figure V-5. Scatterplot of nitrate concentration between the MATES III and MATES IV West Long Beach sites.

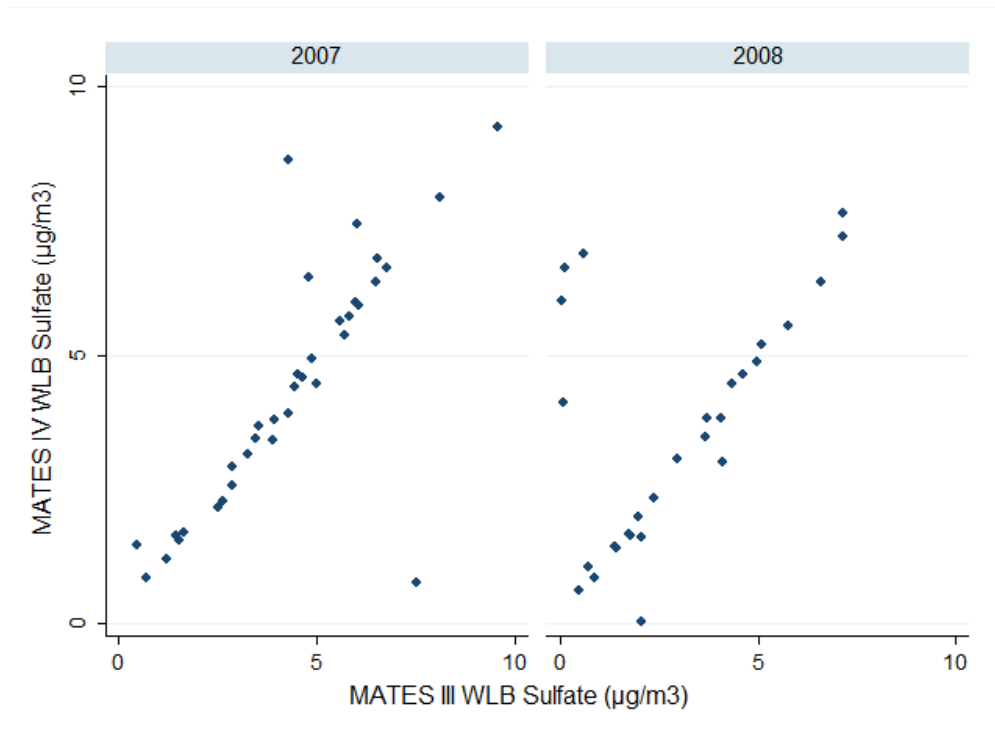


Figure V-6. Scatterplot of sulfate concentration between the MATES III and MATES IV West Long Beach sites.

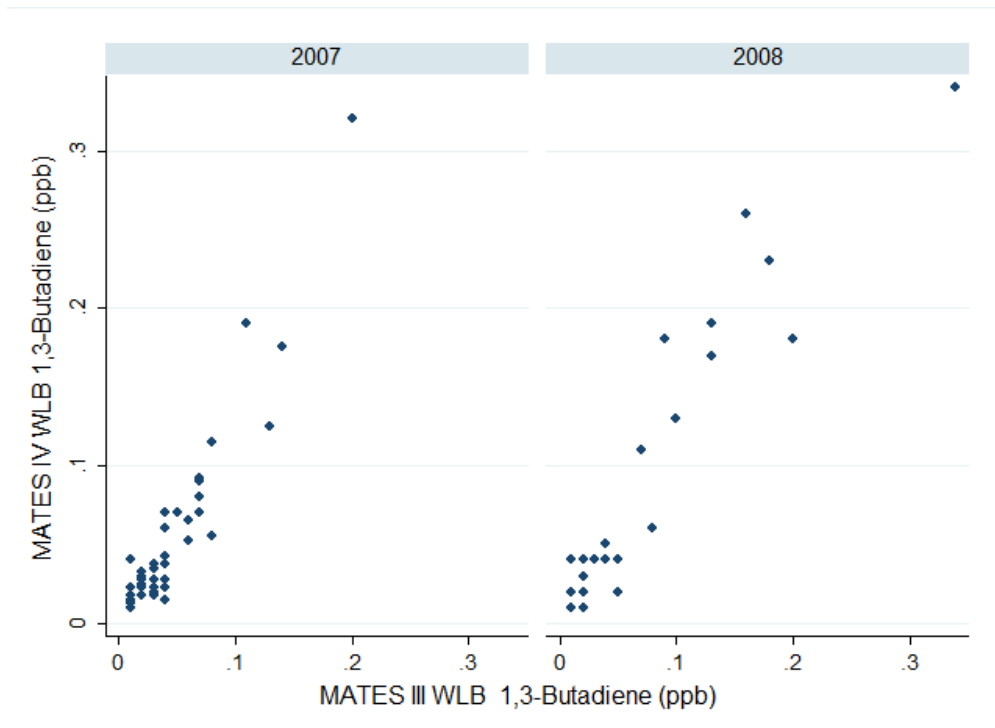


Figure V-7. Scatterplot of 1,3-butadiene concentration between the MATES III and MATES IV West Long Beach sites.

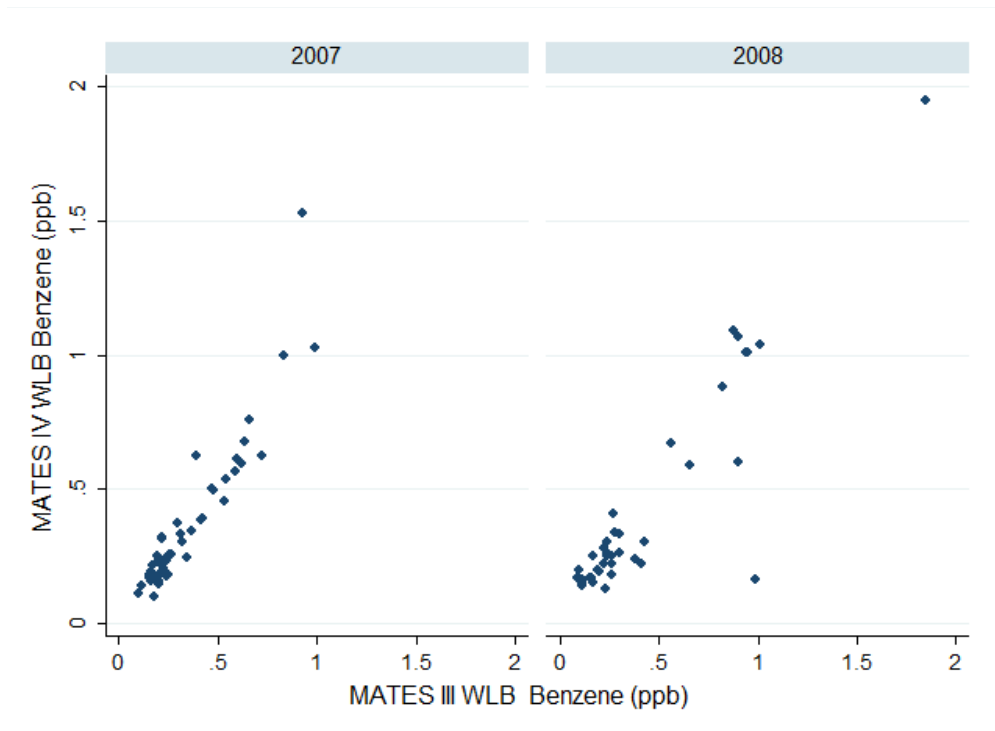


Figure V-8. Scatterplot of benzene concentration between the MATES III and MATES IV West Long Beach sites.

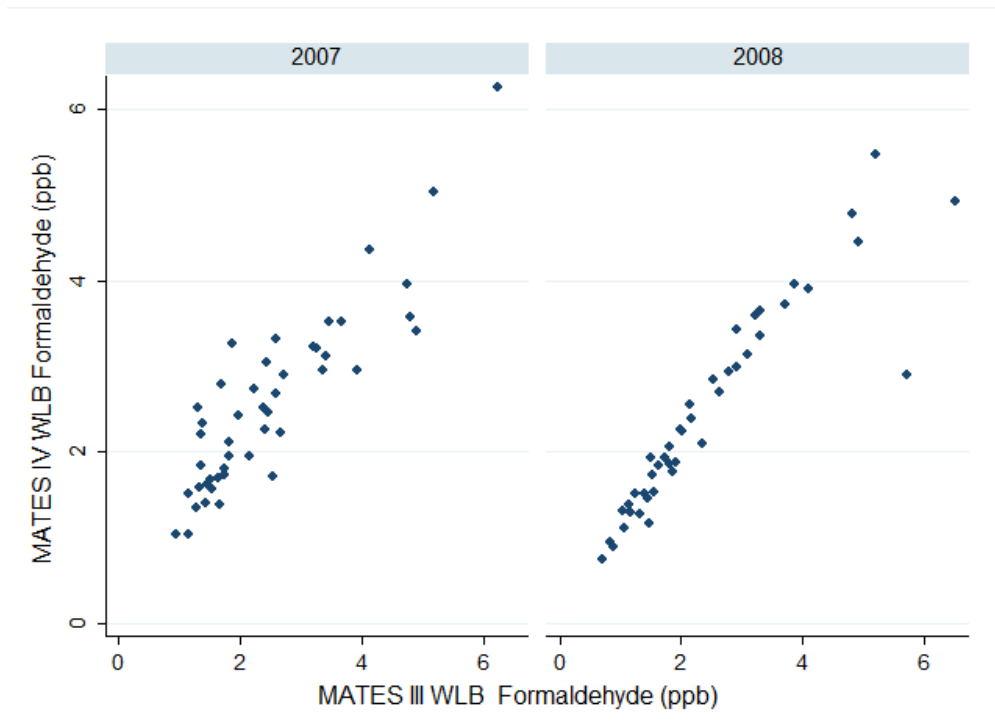


Figure V-9. Scatterplot of formaldehyde concentration between the MATES III and MATES IV West Long Beach sites.

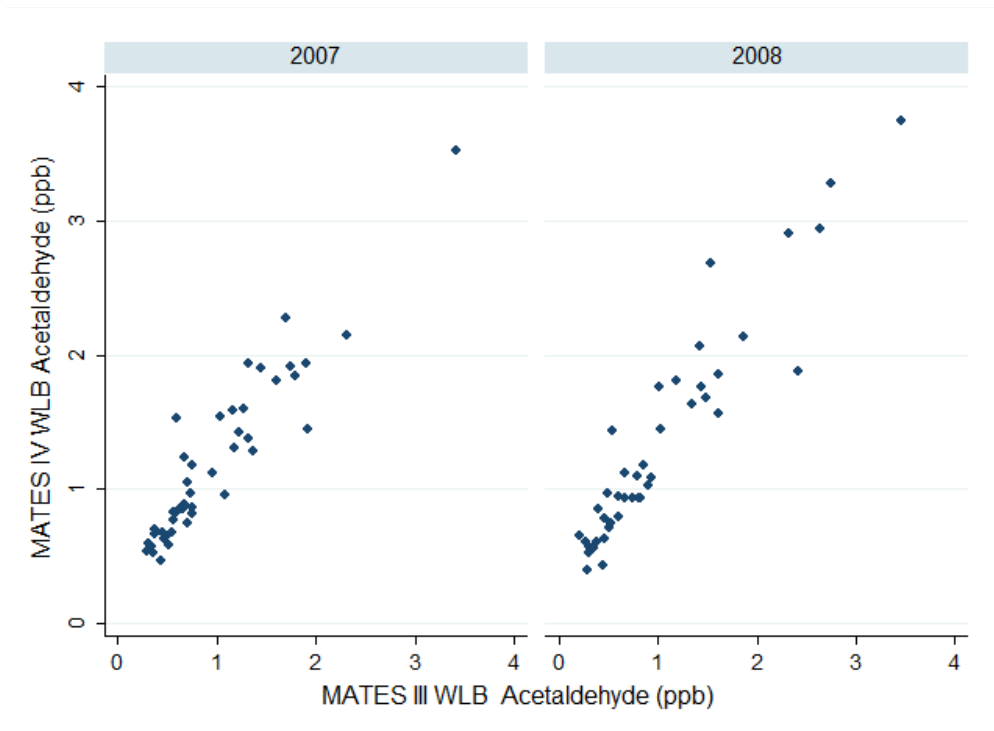


Figure V-10. Scatterplot of acetaldehyde concentration between the MATES III and MATES IV West Long Beach sites.

APPENDIX VI

MATES IV

DRAFT FINAL REPORT

Black Carbon Measurements at Fixed Sites

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Appendix VI Black Carbon Measurements at Fixed Sites

VI.1 Introduction

A common goal of the MATES studies is to identify and quantify health risks associated with major known toxic air contaminants within the South Coast Air Basin (SCAB). In the MATES III study, diesel particulate matter (DPM) was identified as one of the major contributors to carcinogenic risk due to exposure to air toxics, accounting for 84% of the total carcinogenic risk (SCAQMD MATES III Report, 2008). Diesel particulate emissions are primarily in the $PM_{2.5}$ size range and are mostly comprised of impure carbon particles (soot) resulting from the incomplete combustion of diesel-type fuels and is often emitted along with other combustion products such as organic carbon (OC) and trace amounts of inorganic compounds (Abu-Allaban, 2004; Lloyd, 2001). The OC fraction contains mostly heavy hydrocarbons from lubricating oils and low volatility PAHs. Soot is often referred to as black carbon (BC) or elemental carbon (EC) depending on the measurement method used. The presence of high fractions of EC and BC within diesel exhaust is a unique property of this combustion source; therefore in urban areas, EC and BC are often considered good surrogates for DPM (Schauer J. J., 2003). While the major source of EC and BC in an urban area is from diesel-powered vehicles, non-road mobile machinery, ship emissions, residential heating (such as wood burning stoves) and open biomass burning (e.g. forest fires or burning of agricultural waste) also contribute to the observed levels. For example, in some areas of the world, residential burning of wood or coal, or open biomass burning from wildfires, may be even more important sources of BC. In industrial regions, harbors and industrial facilities may have a pronounced effect on BC concentrations. Although EC and BC are currently unregulated, the implementation of national, state and local regulations and programs to mitigate fine PM (i.e. $PM_{2.5}$) and the toxic impacts of diesel emissions often result in the control of EC and BC.

Soot consists of agglomerates of small roughly spherical elementary carbonaceous particles that are emitted directly into the atmosphere predominantly during combustion processes along with some organic carbon (OC). Soot particles absorb organic vapors when the combustion byproducts cool down, thus accumulating significant quantities of potentially toxic organic compounds. While soot may not be a major direct toxic component of fine particles ($PM_{2.5}$), it may operate as a universal carrier of a wide variety of chemicals that cause adverse health effects.

Various analytical methods have been developed to quantify the concentration of atmospheric soot particles. Depending on the measurement method used, the non-OC fraction of soot is referred to as BC or EC. Unlike OC, which is both emitted from primary sources (primary OC) and formed in the atmosphere from chemical reactions involving low-volatility precursors (secondary OC), BC (and EC) is only emitted directly into the atmosphere from combustion processes. Measurements of EC and BC are defined by the method of analysis. Soot can be analyzed by several different methodologies. When its light-absorbing properties are measured, soot is often referred to as BC. When its concentration is measured by thermal or thermal-optical techniques however, it is generally referred to as EC. A significant advantage of monitoring BC by absorption photometry is that it delivers results in real time with a high time resolution (e.g. minutes). The absorption properties of BC are the reason it is considered a short-lived climate forcer, and thus this type of measurement is relevant for climate impact assessment.

Laboratory-based EC methods can be time consuming as soot is sampled on a filter and then subsequently analyzed in a laboratory. These methods do not necessarily yield directly comparable results, although they are generally correlated (Chow, 2001).

The measurement of optically-absorbing material on a filter is performed by Aethalometers. This optical method measures the attenuation of a light of a specific wavelength that is transmitted through a sample collected on a quartz fiber filter, while the filter is continuously collecting ambient aerosols. The measured attenuation is proportional to the mass of BC in the filter deposit. This measurement is affected by the wavelength of the light with which it is made. By using the appropriate value of the specific attenuation for that particular combination of filter and optical components, the concentration of the BC content of the aerosol deposit can be determined at each measurement time.

In the most common thermal analysis EC methods, the particles are collected on a quartz fiber filter. OC can be volatilized and separated from the sample deposit by heating the sample in a non-oxidizing/inert helium (He) atmosphere. EC is also oxidized by raising the temperature and introducing oxygen. The combusted compounds are then converted to CO₂ using manganese dioxide (MnO₂) as the oxidizer. Subsequently CO₂ is converted to methane (CH₄), and the concentration of CH₄ is quantified with a flame ionization detector (FID).

Both optical and thermal measurement techniques are important and complement each other. However, a significant advantage of monitoring BC by absorption photometry is that it delivers results in real time with a high time resolution (minutes), in contrast to measuring EC by a time-consuming analytical method where soot is sampled on a filter and then analyzed. Field deployable versions of the EC/OC methods that provide real-time semi-continuous are also available, but require more maintenance than Aethalometers. Therefore BC measurements are suitable for deployment in monitoring networks for health impact and trend analyses.

VI.1.1 Health Effects Associated with BC

In the U.S., the mass concentration of PM_{2.5} and PM₁₀ currently serves as the regulatory metric for population exposure to ambient particles. EPA, however, recognizes that it is highly plausible that the chemical composition of PM would be a better predictor of health effects than the particle size alone (U.S. EPA, 2009b, 6-202). The focus of the scientific community on trying to identify the health impacts of particular PM constituents (or group of constituents) associated with specific source categories of particles (Janssen et al., 2011; Ostro et al., 2010) has provided evidence of effects associated with exposure to BC, among other PM constituents (Pope et al., 2009). Consequently, research and data collection activities focused on particle composition could improve our understanding of the relative toxicity of different particle constituents associated with specific sources to inform future regulatory activities and benefit assessments.

BC is a component of both fine and coarse PM (PM_{2.5} and PM_{2.5-10}, respectively); however, these two PM size fractions can have substantially different sources and sinks. Therefore, their fractions can be composed of varying chemical species contributing to potentially different health outcomes. Coarse particles arise predominantly from mechanical processes including windblown soil and dust (mostly containing iron, silica, aluminum and base cations from soil), sea salt and bio-aerosols such as plant and insect fragments, pollen, fungal spores, bacteria and

viruses, as well as fly ash, brake lining abrasion and tire wear. Fly ash, brake lining abrasion and tire wear are associated with urban and industrial activities and often contain BC. Fine particles, on the other hand, primarily originate from combustion activities and from gas-to-particle conversion processes in the atmosphere. BC is known to be an important contributor to the total $PM_{2.5}$ mass. Generally, combustion-related particles are widely thought to be potentially more harmful to human health than PM that is not generated from combustion.

Regulation of $PM_{2.5}$ and PM_{10} concentrations in the U.S. during the past two decades has resulted in significant declines in PM concentrations. However, $PM_{2.5}$ remains a significant risk factor for public health considering that many areas of the country are still in non-attainment for the $PM_{2.5}$ National Ambient Air Quality Standards (NAAQS). While BC is currently unregulated, as a component of $PM_{2.5}$, control of BC emissions is also beneficial for attaining the PM mass-based concentration standards.

There are not enough clinical or toxicological studies to allow for an accurate evaluation of the differences between the health outcomes from exposure to BC or PM mass, or of identification of any distinctive mechanism of BC effects. Distinguishing between the effects of highly correlated air pollutants (i.e. pollutants from the same sources such as BC, PM, VOCs, CO and other combustion products) is always challenging because of inherent problems caused by multi-co-linearity in statistical models. A review of the results of all available toxicological studies suggested that BC itself may not be a major toxic component of $PM_{2.5}$, but it may serve as a carrier of a wide variety of, especially combustion-derived, chemical constituents of varying toxicity to sensitive targets in the human body such as the lungs, the body's major defense cells and possibly systemic blood circulation. In urban areas such as Southern California, BC (and EC) is considered as a tracer for diesel PM, which is the most important contributor to the carcinogenic risk due to air toxics exposure in the South Coast Air Basin.

VI.1.2 Climate

BC is one of the major anthropogenic components of atmospheric particles, and has significantly different optical and radiative properties compared to the other PM constituents. It is the most effective form of PM, by mass, at absorbing solar energy and can absorb a million times more energy than carbon dioxide (CO_2) per unit mass. There is a general consensus within the scientific community that BC is contributing to climate change globally and regionally. BC influences climate through multiple mechanisms, directly and indirectly. Direct radiative forcing by BC is caused by absorption and scattering of sunlight. BC contributes to warming of the atmosphere by absorbing both incoming and outgoing radiation of all wavelengths (in contrast to greenhouse gases (GHGs), such as CO_2 that mainly trap outgoing infrared radiation from the Earth surface) which in turn heats the atmosphere where the BC is present.

BC also deposits on snow and ice significantly reducing the total surface *albedo* available to reflect solar energy back into space, thereby increasing energy absorption and accelerating ice melting. Furthermore, BC can affect the climate indirectly, like other atmospheric particles, by altering cloud formation, distribution, reflectivity and lifetime. BC influences the properties of clouds through diverse and complex processes, including changing the number of liquid cloud droplets and altering the atmospheric temperature structure within the cloud, which consequently alters cloud distributions. These effects may have either negative or positive climate forcings. Thus, the climate effects of BC via interaction with clouds are more uncertain, and their net

climate influence is an open subject of research.

Other than different mechanisms by which BC and long-lived GHGs affect climate, one of the distinguishing differences between BC and other GHGs is due to the relatively short atmospheric lifetime of BC (days or weeks as opposed to years or decades). BC concentrations respond quickly to reductions in emissions because BC is rapidly removed from the atmosphere by dry and wet deposition. Consequently, targeted strategies to reduce BC emissions can be expected to provide immediate results that could reduce global climate forcing from anthropogenic activities in the short term and slow the associated rate of climate change (Bond, Doherty, 2013; Molina, et al. 2009; Ramanathan and Xu, 2010). While reduction in GHG emissions is necessary for limiting climate change over the long-term, it will take much longer to influence atmospheric concentrations and will have less impact on climate on a short timescale. Accordingly, mitigation of BC emissions from on-road and off-road (e.g. agricultural, construction and other diesel-engine mobile equipment) diesel sources may have the best potential to reduce near-term climate forcing, as well as reducing public exposure to toxic air contaminants.

VI.2 BC and EC Measurements during MATES IV

The Aethalometer continuous measurements were carried out at all 10 fixed MATES IV locations from July 2012 until the end of June 2013 or beyond. Only data collected from July 1, 2012 through June 30, 2013 have been used for the present report. Monthly-averaged ambient data from samples collected at all fixed MATES IV sites [West Long Beach (W LB), North Long Beach (N LB), Compton (COMP), Huntington Park (HNPK), Pico Rivera (PICO), Central Los Angeles (CELA), Burbank (BURK), Inland Valley San Bernardino (IVSB), Rubidoux (RUBI), and Anaheim (ANAH)] were used. Details of the sites, their characteristics and sampling protocols are given in Chapter 2 of MATES IV.

VI.2.1 Black Carbon Measurements

The Aethalometer (Magee Scientific, Berkeley, CA) is an instrument which collects airborne particulate matter on a filter while continuously measuring the light transmission through the filter. Aethalometers are small, reliable and easy to use, provide continuous real-time measurements and are the most common instruments used to measure BC. The operating principles of the Aethalometer are described in detail elsewhere (Hansen, et al., 1984). Briefly, this instrument utilizes light-absorbing properties of BC-containing particles in order to gain a light absorption coefficient. This coefficient can be translated into a unit that measures particulate BC mass.

During MATES IV, aerosol particles were sampled through a ¼" inlet with a PM_{2.5} cyclone with a sampling flow rate of 5 L.min⁻¹. The Aethalometers were operated in air-conditioned trailers. Typical maintenance operations include flow rate calibration, zero tests, filter taper replacement (once every two weeks in locations with high BC concentrations), and cleaning.

One drawback of this measurement method, inherent in all filter-based photometers, is the non-linearity of the measurements due to PM loading on the filter media, which reduces the sensitivity of the measurements. The Aethalometer relies on measurements of light transmission through the collection filter; this needs to be post-processed to obtain ambient aerosol absorption coefficients which are then converted to BC concentrations. Numerous studies have focused on

developing methodologies to correct the Aethalometer non-linearity and the Aethalometer model AE33 performs the correction automatically.

VI.2.2 Elemental Carbon Measurements

OC and EC are determined by thermal-optical analysis of integrated PM samples collected over a period of 24 hours. It should be noted that there are several different protocols to measure OC and EC, and results may differ by up to a factor of 2 (Health Effects Institute (HEI) 2010). This means extra caution is required when comparing EC measurements from different studies, or when comparing BC and EC measurements. Currently, 24-hr integrated EC concentrations are available for regional and urban monitoring sites throughout the U.S. Interagency Monitoring of Protected Visual Environments (IMPROVE) Network and the U.S. Environmental Protection Agency Chemical Speciation Network.

In the MATES IV Study, the EC concentrations were quantified using DRI Model 2001 Thermal/Optical Carbon Analyzer using IMPROVE_A thermal protocol. The operation of the DRI Model 2001 Thermal/Optical Carbon Analyzer is based on the preferential oxidation of organic carbon (OC) compounds and elemental carbon (EC) at different temperatures. Its function relies on the fact that organic compounds are volatilized from the sample deposit in a non-oxidizing helium (He) atmosphere, while elemental carbon is combusted by an oxidant, in this case oxygen. The analyzer operates by: 1) liberating carbon compounds under different temperature and oxidation environments from a small sample punch of known surface area taken from a quartz-fiber filter; 2) converting these compounds to carbon dioxide (CO₂) by passing the volatilized compounds through an oxidizer (heated manganese dioxide, MnO₂); 3) reducing CO₂ to methane (CH₄) by passing the flow through a methanizer (hydrogen-enriched nickel catalyst); and 4) quantifying CH₄ equivalents with a flame ionization detector (FID).

The principal function of the optical (laser reflectance and transmittance) component of the analyzer is to correct for pyrolysis charring of OC compounds into EC. Without this correction, the OC fraction of the sample might be underestimated and the EC fraction might include some pyrolyzed OC. The correction for pyrolysis is made by continuously monitoring the filter reflectance and/or transmittance (via a helium-neon laser and a photodetector) throughout an analysis cycle. The reflectance and transmittance, largely dominated by the presence of light absorbing EC, decrease as pyrolysis takes place and increase as light-absorbing carbon is liberated during the latter part of the analysis. By monitoring the reflectance and transmittance, the portion of the EC peak corresponding to pyrolyzed OC can be accurately assigned to the OC fraction. The correction for the charring conversion of OC to EC is essential for reducing bias in the measurement of carbon fractions (Johnson et al., 1981). The Thermal Optical Reflectance (TOR) and Thermal Optical Transmittance (TOT) charring corrections are not necessarily equivalent due to charring of organic vapors adsorbed within the quartz fiber filter (Chow et al., 2004; Chen et al., 2004). AQMD reports both OC and EC as determined by both methods to the EPA. Seven temperature fractions, as well as the TOR and TOT charring correction, are individually quantified and reported when the IMPROVE A (Chow et al., 1993, 2001) temperature protocol is applied. Values routinely reported include total OC, total EC, total carbon (TC, sum of total OC and total EC), and pyrolyzed carbon, monitored by both reflectance (OPR) and transmittance (OPT). Depending on the thermal/optical protocol applied for quantification, thermally-derived sub-fractions of OC and EC are reported.

VI.2.3 Aethalometer™ Data Review and Validation

The SCAQMD is committed to achieving the highest possible data quality level. In order to produce accurate and precise data from the Aethalometers, the raw data, laboratory notebook entries and logbooks were first reviewed before being used in statistical calculations.

Data from the Aethalometers were recorded every 1 to 5 minutes on an internal floppy disk or memory drive, and downloaded on a laptop once per week throughout the entire duration of the study. The data is recorded in tabular format showing the time and the high time resolution BC concentrations. The data is imported directly into a spreadsheet for analysis. In addition to the BC concentrations, the system also records diagnostic signals such as Sensing Beam signal, Reference Beam signal, the mean air flow rate, and the calculated optical attenuation which is screened for any abnormality.

The Aethalometer needs to measure extremely small changes in optical transmission in order to calculate BC concentrations with speed and accuracy which may introduce noise in the data. The major source of noise is due to small, random fluctuations of digitized signals. These fluctuations have the effect of causing the calculated value of attenuation (ATN) to deviate from a smooth, monotonic increase with time: instead, individual values of ATN may be artificially higher or lower than would be predicted from the rate of accumulation of BC from the air stream. Such error in signals will usually not be repeated in the following measurement cycle, and, therefore, the calculated ATN will revert to its 'correct' value: but with an intervening false number.

If the error condition produced an artificially high value of ATN for one measurement, the algorithm will interpret that large increase as a large value of the BC concentration for that period. This calculated value may be much larger than the preceding and following data, and the event will be obvious. However, this large value of ATN is used as the starting value for the calculation of the increment in the following cycle. The increase from this value to the 'correct' value at the end of the next period will be much smaller than it should be, resulting in a reduced value for the BC calculation. The result of the single error value of ATN in this case is an artificially large value of BC, followed by an artificially small value. The 'true' value is recovered by replacing the value for each of the periods with the arithmetic mean of the two distorted values. This is equivalent to simply ignoring the one bad signal measurement; determining the increase in ATN between the periods before and after the bad measurement; and calculating the increment in ATN and hence the mean BC concentration over a time interval of two periods rather than one.

In extreme cases, the error in voltage measurement may generate a value of ATN that deviates from the expected smooth progression by a large amount. The algorithm will process these deviations in the same manner; however, if the apparent value of ATN during the 'error' measurement exceeds the subsequent 'correct' value of ATN, the program is presented an optical attenuation value that is smaller than its predecessor. The mathematics will produce a negative apparent value of BC for this situation. This negative value will be adjacent to a slightly larger positive value: the arithmetic mean of the two numbers will still allow a recovery of the correct mean BC concentration for the double period. The derivative nature of the algorithm is such that a single error value in recorded signals produces a symmetrical plus-minus (or minus-plus in some cases) derivative event in the calculated BC result.

Note, however, that the appearance of ‘negative’ numbers for the deduced BC concentration is a natural consequence of the algorithm if either (i) there are occasional corrupting events on the voltages being recorded, or (ii) the instrument is being used to study extremely small concentrations of BC. These negative numbers do not imply malfunction of the instrument; they are the consequence of differentiating a quantity (ATN) whose increase with time is not perfectly smooth and monotonic. In subsequent data reduction, one must average the BC numbers appropriately until the negative numbers disappear, i.e., effectively increase the averaging time until the increment of BC collected on the filter easily exceeds the minimum amount detectable by the electronics.

The measurements are performed with a one-minute time base period that is considerably shorter than the final desired time resolution (hourly), and should subsequently undergo data post-processing. The reasons for this strategy are two-fold: firstly, to minimize the damage to the resulting data due to one bad voltage reading; and, secondly, to allow the instrument to respond rapidly to ‘real’ events in the local atmosphere, while retaining the possibility of averaging the data into longer time base periods during quiescent periods. In these events the large positive excursion is not followed by a compensating negative number.

Firstly, the instrument logbooks were studied to identify instrument malfunction events. The raw data spreadsheet includes diagnostic signals in addition to BC data and time stamps. The stability of the sensor signals and the flow rate was checked prior to conducting statistical analysis of the raw data.

Aethalometers tend to have a glitch where four consecutive zero readings are occasionally reported that have to be removed prior to the final data analysis and averaging for hourly data. In some cases, instead of four consecutive zeros, the instruments report three consecutive zeros followed by a large negative number (in the order of negative millions). These data points were removed from the database.

Outliers are then identified by flagging the BC concentration values that exceed 10 times the average value for each given site. These flagged data points are then studied to determine occasional short-duration events of actual BC concentration excursions (e.g. emissions from a diesel vehicle operating upwind of the measurement site). These events are typically identified in the database as those in which a large positive excursion is not followed by a compensating negative number. If flagged data-points were indeed caused by an instrument glitch, they were removed from the data-set. The same procedure was repeated for negative values exceeding five times the overall average BC concentration.

Following this preliminary data screening, the ‘cleaned’ database was used for the calculation of hourly averages and to study temporal and spatial BC variations at the 10 MATES IV sites. If the hourly averages were negative, the high time resolution data associated to that particular hour were re-examined, to remove negative values. All final (valid) hourly BC data points were larger than zero. The data screening yielded excellent data completeness, with an average data recovery of 96% over the 10 sites, well above the targeted 75% completeness established prior to the beginning of this study (Figure 1).

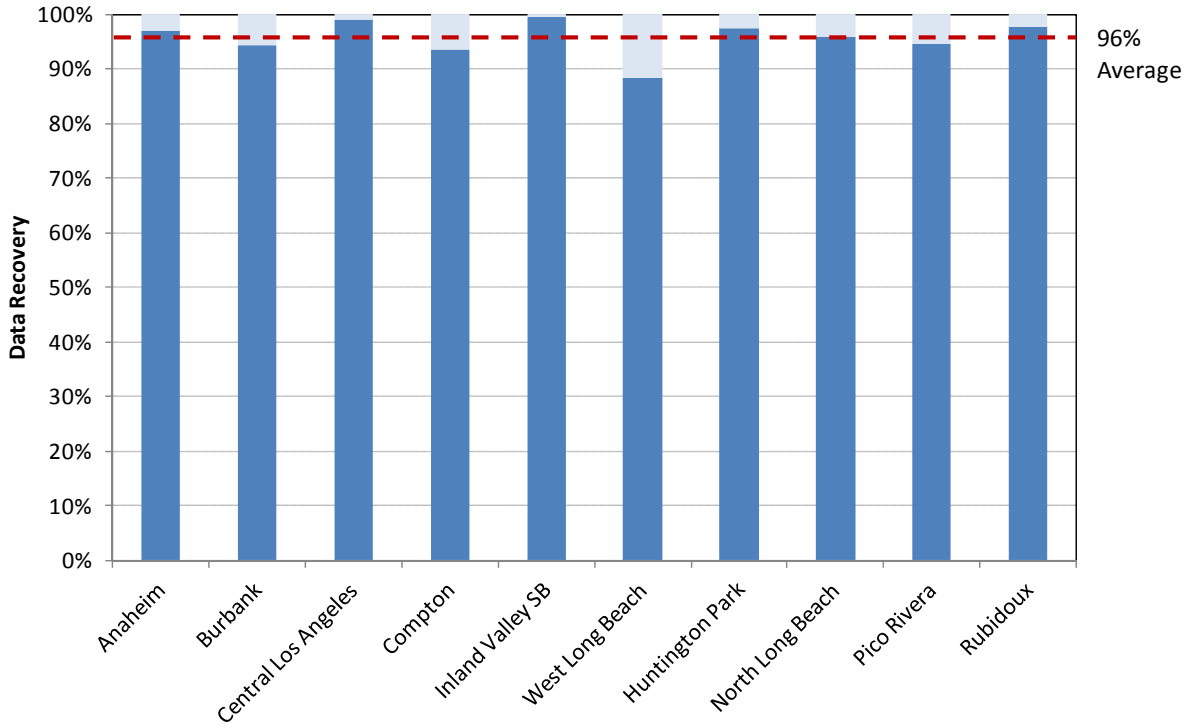


Figure 1 - Black Carbon Data Completeness at each of the MATES IV sites.

VI.2.4 Results

Diurnal, daily, seasonal and yearly variations in BC concentration were examined to study the temporal variations in BC concentrations. Spatial variations were also studied by comparing the collected BC data across each sampling site. Temporal and spatial variations in BC concentrations present invaluable information regarding daily and seasonal patterns and, more importantly, potential source contributions throughout SCAB.

VI.2.5 Spatial Variations

Figure 2 shows a box plot, summarizing the distribution of hourly BC concentrations for MATES IV. Data is displayed based on six number values (in order): 90th quartile, 75th quartile, mean, median (50th quartile), 25th quartile and 10th quartile. The inner rectangle spans the mean and median, while the outer rectangle spans the 75th and 25th quartiles. The “whiskers” above and below the box extend to the 90th and 10th, respectively.

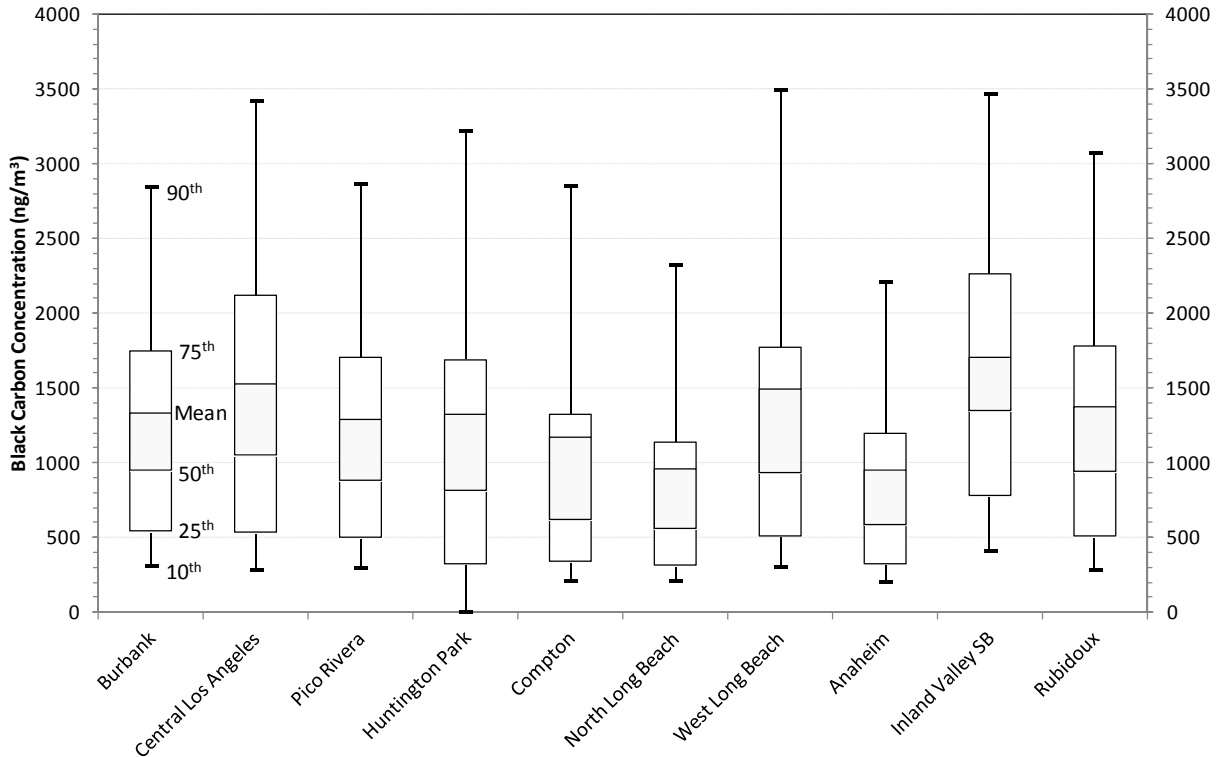


Figure 2 - Spatial Distribution of Black Carbon Concentrations Across All MATES IV Sites.

Figure 3 presents only the average BC concentration at each site for the duration of the study, along with the Basin average BC concentration [MATES IV (AVG)] and the Basin average EC concentration for the current and previous MATES studies [MATES III (EC) and MATES IV (EC), respectively]. Generally, BC concentrations at the urban sites closer to traffic corridors (i.e. Burbank, Central Los Angeles, Pico Rivera and Huntington Park) were higher than those at more suburban sites (e.g. Compton and Anaheim). Elevated concentrations were also observed at inland/receptor sites such as Rubidoux and Inland Valley San Bernardino (probably due to truck traffic in those areas). While BC was not measured during MATES III, the average EC levels decreased substantially (about 35% reduction) from MATES III to MATES IV (See Chapter 2).

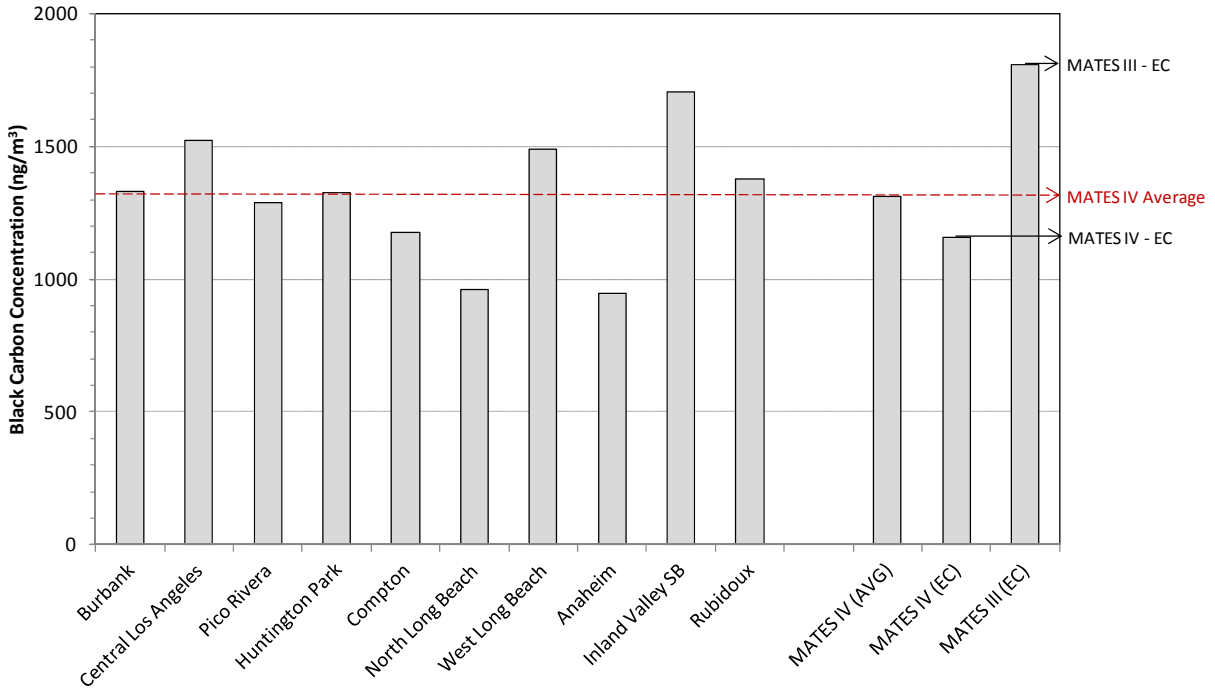


Figure 3 - Distribution of average Black Carbon concentrations during MATES IV and comparison with MATES IV and MATES III Elemental Carbon study averages.

VI.2.6 Temporal Variations

BC exhibits considerable daily, seasonal and annual variations. Studying BC variations over different time intervals can yield insights into the contributions of local and urban scale sources and into short- and long-term exposure levels.

Figure 4 shows monthly average BC concentrations that were calculated based on the high time resolution BC measurements for the entire sampling period. A general seasonal trend can be discerned from this plot, with elevated BC concentrations observed during the colder months.

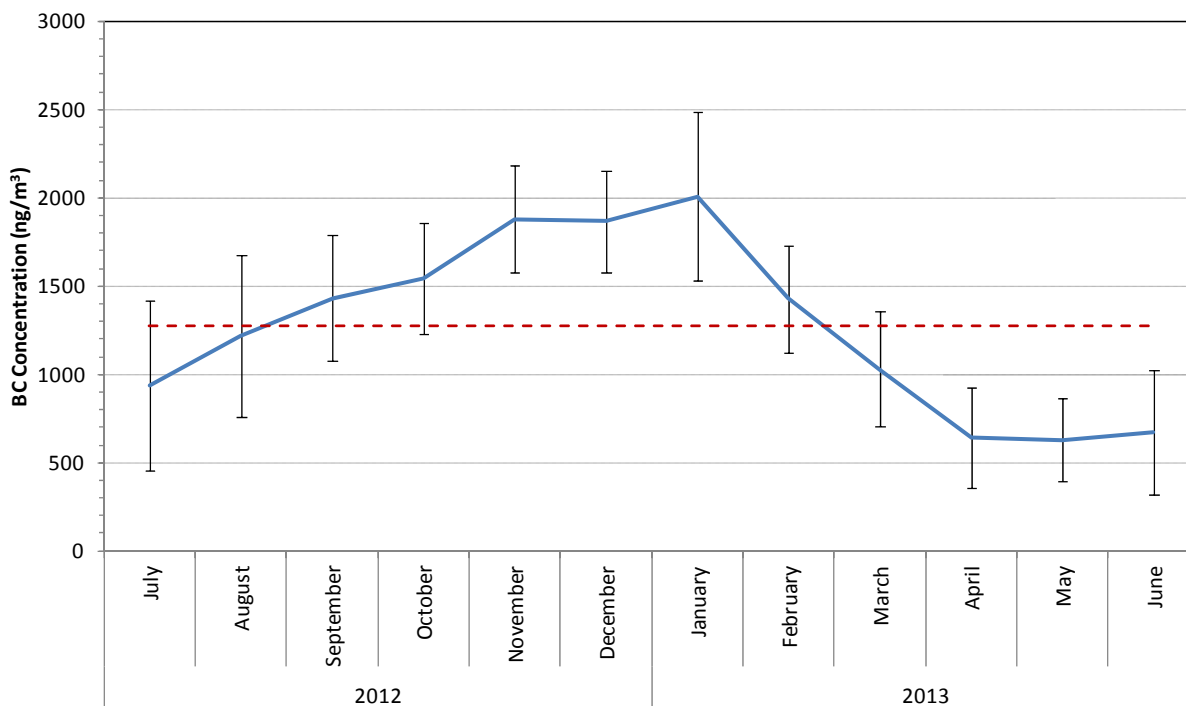


Figure 4 - Monthly Average Black Carbon Concentration Trends in the South Coast Basin During MATES IV. Red Line Indicating the MATES IV Average Concentration.

As mentioned earlier, in addition to diesel exhaust, other sources contribute to increasing the total BC content of atmospheric PM. These may include biomass burning, meat charbroiling and fuel oil combustion (ship emissions). Emissions from these sources often show some seasonality and may impact the spatial distribution of BC within the Basin (Magliano, 1999; Reinhart, 2006). For instance, during colder winter months an increase in residential wood burning would be expected (Fine et al., 2004). Hence, the higher BC concentrations observed during the winter season can be partly attributed to enhanced BC emissions from increased residential wood burning. However, the winter months are characterized by lower mixing height which is likely the most significant factor increasing the atmospheric concentrations of several atmospheric pollutants, including BC.

These seasonal trends are further highlighted in Figure 5, where the BC concentrations for each site were averaged over a period of three months (i.e. summer: June, July and August; fall: September, October and November; winter: December, January and February; and spring: March, April and May).

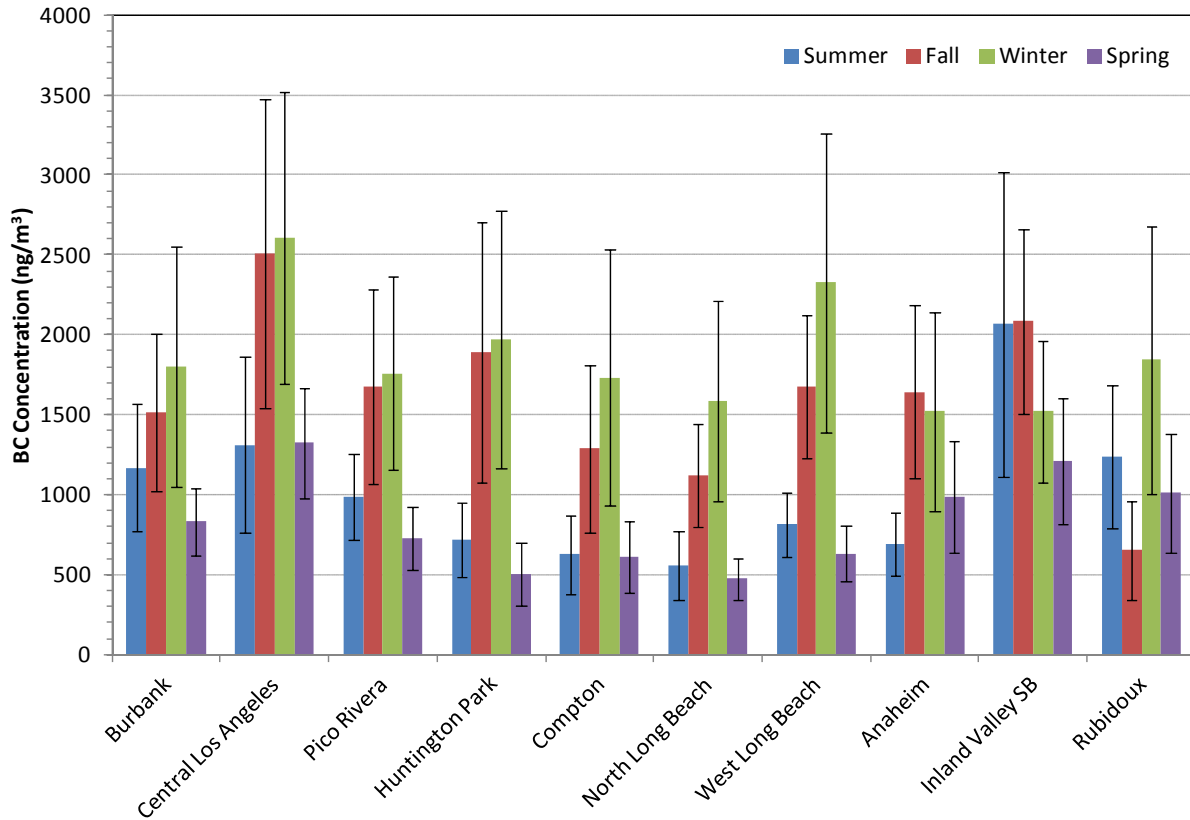


Figure 5 - Seasonal Variations of Black Carbon Concentrations at Each MATES IV Site.

BC concentrations during the warmer months were substantially higher in Inland Valley San Bernardino with respect to all other MATES IV sites, with the highest monthly mean concentration observed in July, August and September 2012, and March, April, May and June 2013. In contrast the BC concentration at the same Inland Valley San Bernardino location in January 2013 was the lowest amongst all sites (Figure 6). This different seasonal trend may be due to potential unknown local sources of BC at this site that follow a different seasonal pattern.

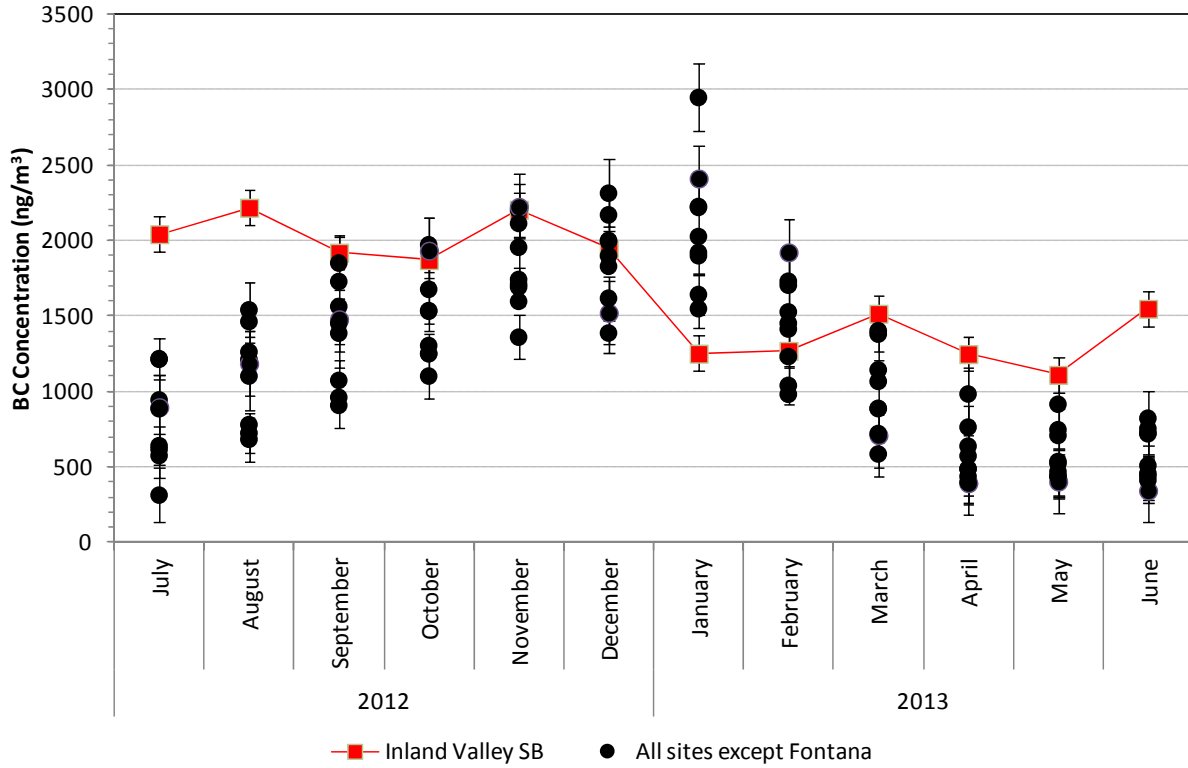


Figure 6 - Inland Valley San Bernardino (Fontana) Exhibits a Different Temporal Variation Compared to All Other MATES IV Sites.

In order to assess the temporal associations between each site pair, a linear regression analysis was performed. Figure 7 summarizes the correlation coefficients for all site pairs. All r^2 values are highlighted with colors ranging from blue (poor correlation) to red (strong correlation).

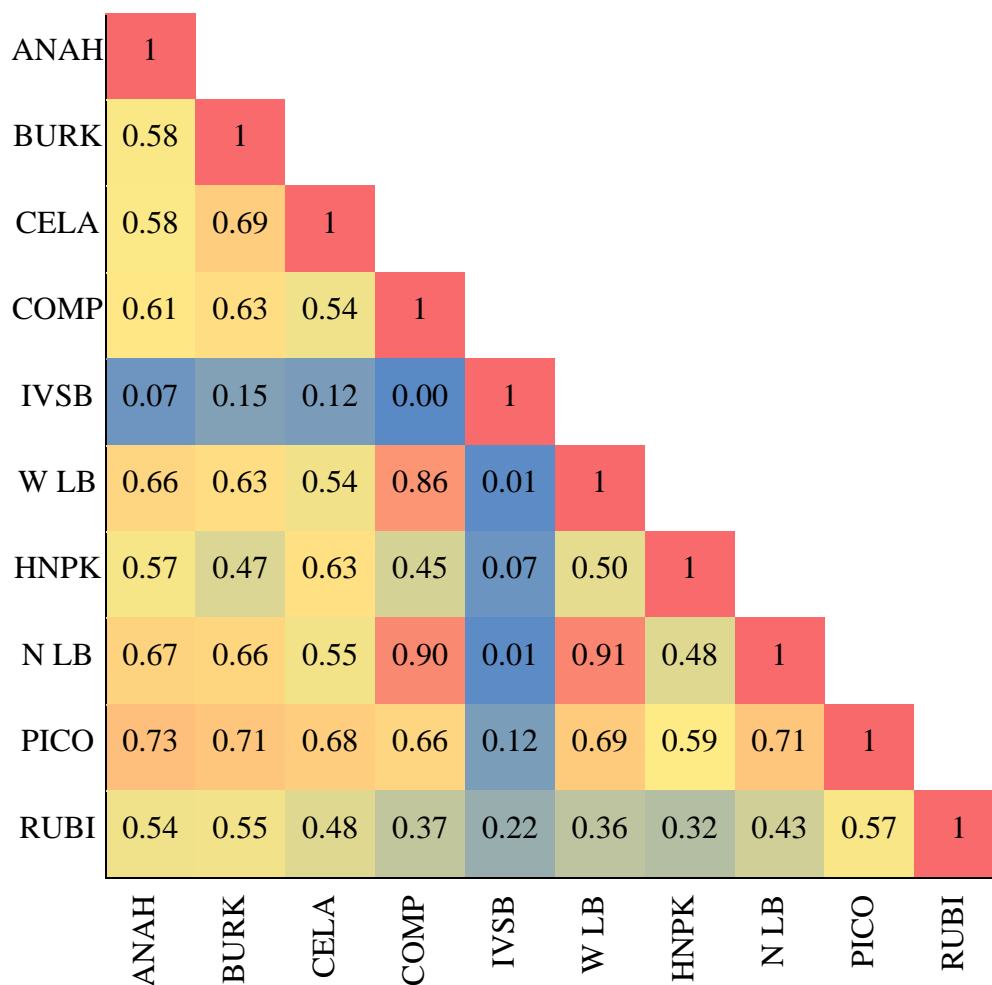


Figure 7 - Coefficients of Determination (r^2) of Black Carbon Trends between Each Site Pair.

Among all site pairs, the highest correlation coefficients were obtained between sites located nearer the port area (i.e. Compton, West Long Beach and North Long Beach sites) with r^2 values higher than 0.80. The relatively high r^2 values between these sites and more inland sites (i.e. Anaheim, Burbank and Pico Rivera) suggest that the major sources of BC at these sites are similar and concentrations vary with a relatively similar temporal pattern. Other than Inland Valley San Bernardino which was not correlated with any other site, Rubidoux also exhibits relatively low r^2 values, which suggests different temporal trends of BC concentration in Riverside.

VI.2.6.1 Diurnal Variations

Typically, BC exhibits a distinct diurnal profile at most locations. BC is associated with primary combustion activities and is widely considered as one of the best indicators of local mobile source diesel emissions in urban environments.

The 10-site average diurnal variation of BC concentrations (indicative of the typical diurnal BC trend in the South Coast Air Basin) is shown in Figure 8. The distinct increase in BC mass concentration between 0600 and 0900 PST is associated with rush-hour traffic during stagnant atmospheric conditions in the morning.

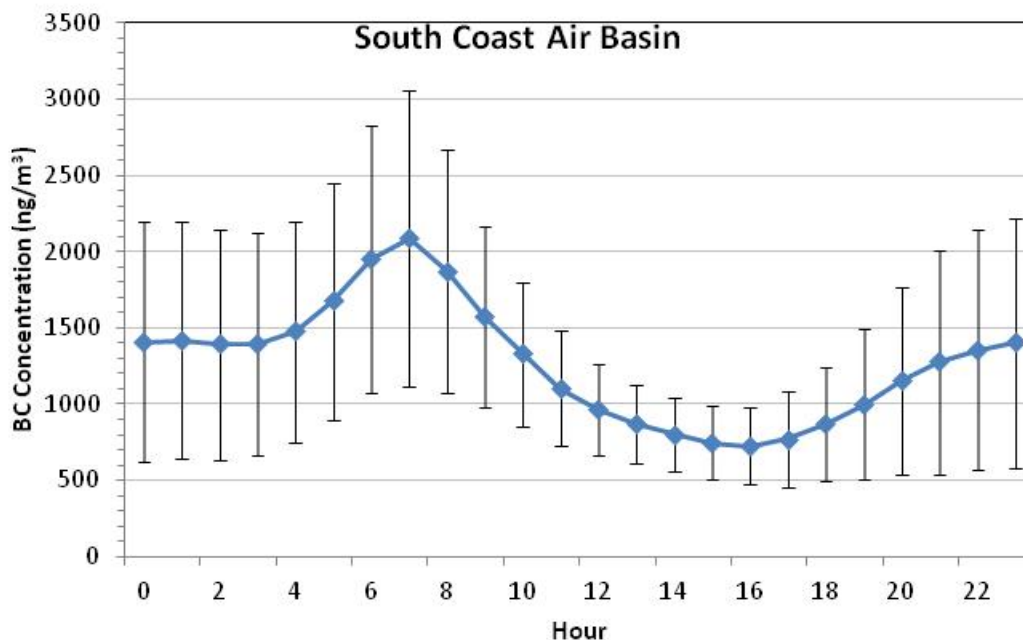


Figure 8 - Diurnal Variation of Black Carbon Concentration in South Coast Air Basin During MATES IV.

As the day progresses, the increased solar heating leads to greater dispersion of aerosols due to increased turbulent effects and deeper boundary layer. The dispersion of aerosols causes a dilution of BC near the surface resulting in a gradual decrease in BC concentrations in the afternoon along with diminished traffic density. The BC concentration continues to be relatively low until 17:00 when it slowly increases in the evening hours, which can be partly attributed to the evening rush hour traffic. In addition, lower wind speeds during night and shallow inversion layer leads to a rapid decline in ventilation. Overnight, there is a progressive and strong reduction in the traffic density and BC generation, but stable conditions persist until the morning.

VI.2.6.2 Seasonal Variations of BC Diurnal Trends

In order to examine the seasonal changes on the BC diurnal variations, the BC concentrations were averaged over a period of three months, to compare the diurnal variations of BC during each season at each site. In this analysis, the hourly BC concentrations are averaged for the months of June, July and August, representing summer; September, October and November, representing fall; December, January and February, representing winter; and March, April and May, representing spring. Each data point represents the average concentration for that hour for the entire three month period. Results are presented in Figure 9(a – j).

In general, there is a distinct seasonal dependence on the diurnal variations of BC. With the exception of Inland Valley San Bernardino, as compared to winter, the morning peak is less pronounced in summer and the evening peak is completely absent. It is evident that the BC concentrations during the winter season show the strongest diurnal variations. This can be mainly attributed to the seasonal changes in the boundary layer dynamics. Due to meteorological conditions, the boundary layer in winter is much shallower compared to its summer counterparts, resulting in the increased confinement of aerosols, causing an increase in the BC concentrations in winter. Moreover, the secondary evening peak is prominent only during the winter season, gradually diminishing during fall and spring seasons, and almost disappearing during the summer months when afternoons are characterized by strong on-shore sea breezes.

It is important to note that during the winter months, there can be additional BC emissions due to residential wood burning, particularly during night-time when the temperatures drop, which would contribute to the observed secondary, evening peak in winter.

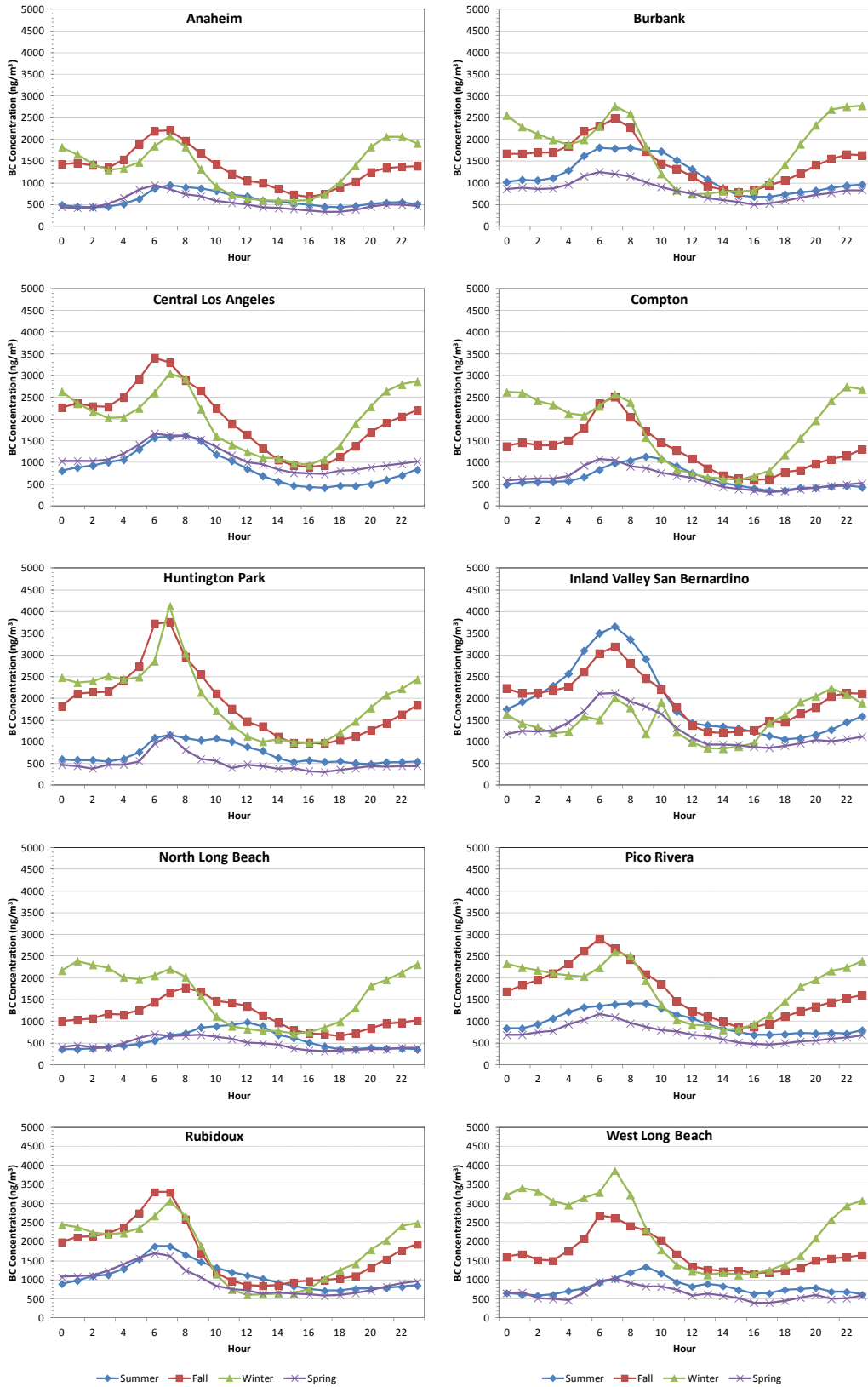


Figure 9 - Seasonal Diurnal Trends of Black Carbon Concentrations at Each Site.

VI.2.6.3 Weekday vs. Weekends

Motor-vehicle traffic (diesel traffic, in particular) has a direct impact on ambient BC concentrations. At most locations, traffic density during weekdays (i.e. Monday through Friday) is usually higher than on weekends (i.e. Saturday and Sunday). This is reflected in Figure 10, where for each season the BC concentration measured during weekdays is typically higher than that on Saturdays and Sundays.

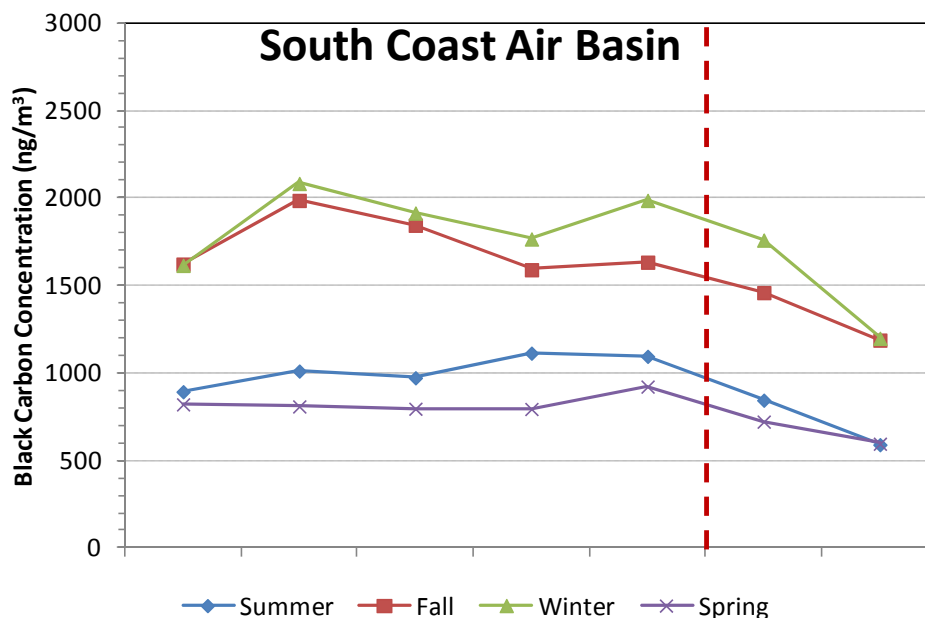


Figure 4 - Seasonal Weekday/Weekend Comparison in the South Coast Air Basin During MATES IV.

VI.2.7 Comparison Between BC and EC Measurement

Continuous BC monitors (i.e. AE22 and AE33 Aethalometers) and 24-hr integrated speciation samplers (i.e. SASS; used to collect the particle samples that were then analyzed for EC and other major components of PM_{2.5}) were operated at all 10 MATES IV sites. Both samplers were operated in air-conditioned trailers through PM_{2.5} inlets, approximately 10 m above the ground level and subsequently, the quartz-fiber filters were analyzed for OC and EC.

As shown in Figure 11, a comparison between the 24-hr. average BC concentrations and the corresponding EC levels for all MATES IV sites shows a good correlation ($r^2 = 0.81$).

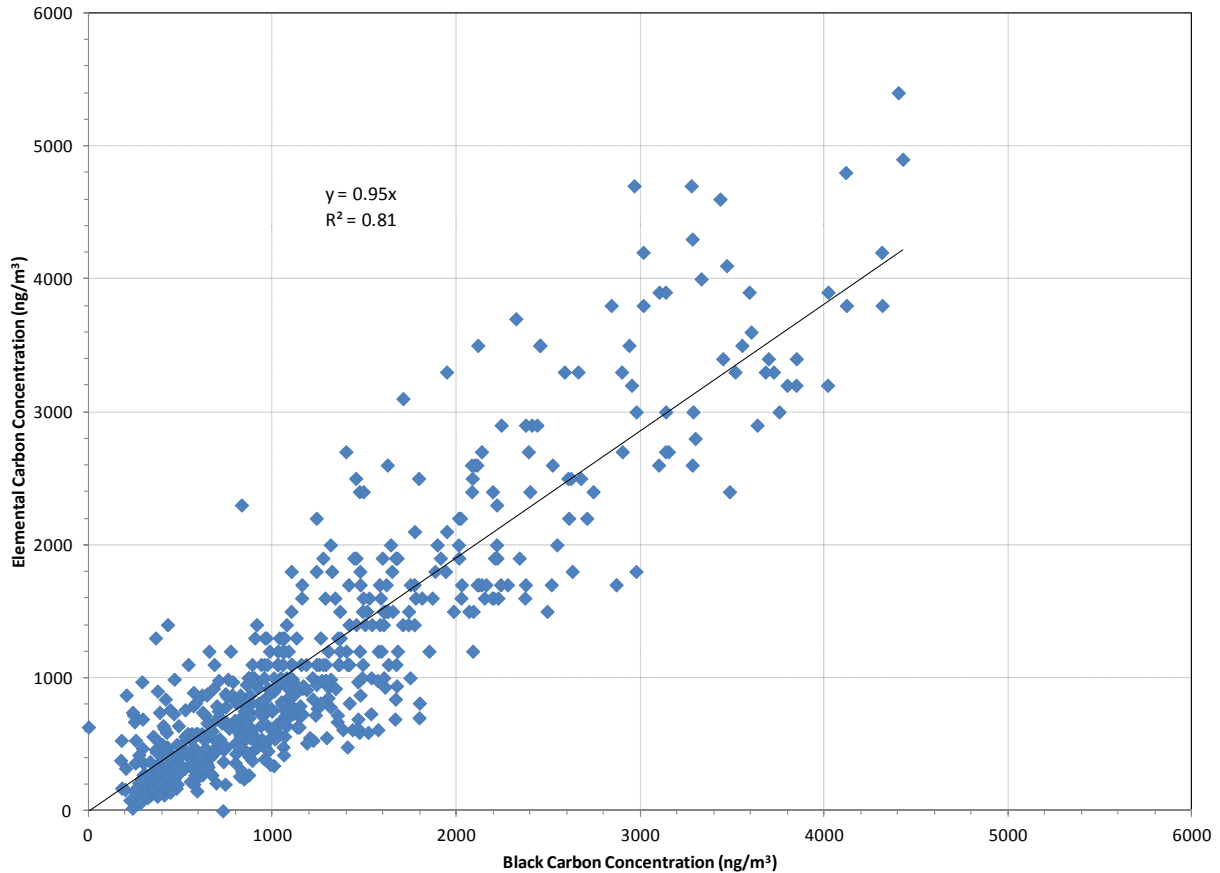


Figure 11 - Comparison of Daily Average BC and EC Concentrations in South Coast Air Basin During MATES IV.

The relationship between BC and EC measurements has been the subject of extensive research. Such comparisons usually indicate satisfactory correlation coefficients but various degrees of bias (slope). This is probably related to the choice of the coefficients used to convert absorption measurements to BC estimates or to assumptions inherent in the thermal-optical methods used to measure EC. Figure 12 show the regression analysis between BC and EC measurements at each site. While the high correlation coefficients ($0.67 < r^2 < 0.90$) show good agreement between the two measurements, the slopes can be either higher or lower than unity. Of all 10 sites, the slopes of the EC/BC regressions were higher than 1 at five sites (i.e. North Long Beach, Pico Rivera, Anaheim, Burbank and Compton) and smaller than 1 at the other five sites (i.e. West Long Beach, Huntington Park, Rubidoux, Inland Valley San Bernardino and Central Los Angeles). Therefore, a universal correction factor for converting optical BC measurements to thermal-optical EC equivalents may impose significant biases. Such conversions are desirable since current chemical transport models are mostly based on time-consuming and relatively expensive EC measurements, whereas BC measurements can be performed relatively cheaply, continuously, with higher time resolution and with much lower required maintenance. One solution might be applying site-specific correction factors calculated based on actual measurements.

It should be noted that prior to the beginning of the MATES IV Study, an intensive co-located study was designed and conducted by I-710 Freeway, to measure BC and EC concurrently in order to evaluate the instruments and the comparability of BC and EC measurements methods. A summary report for this study will be completed separately from the MATES IV Report.

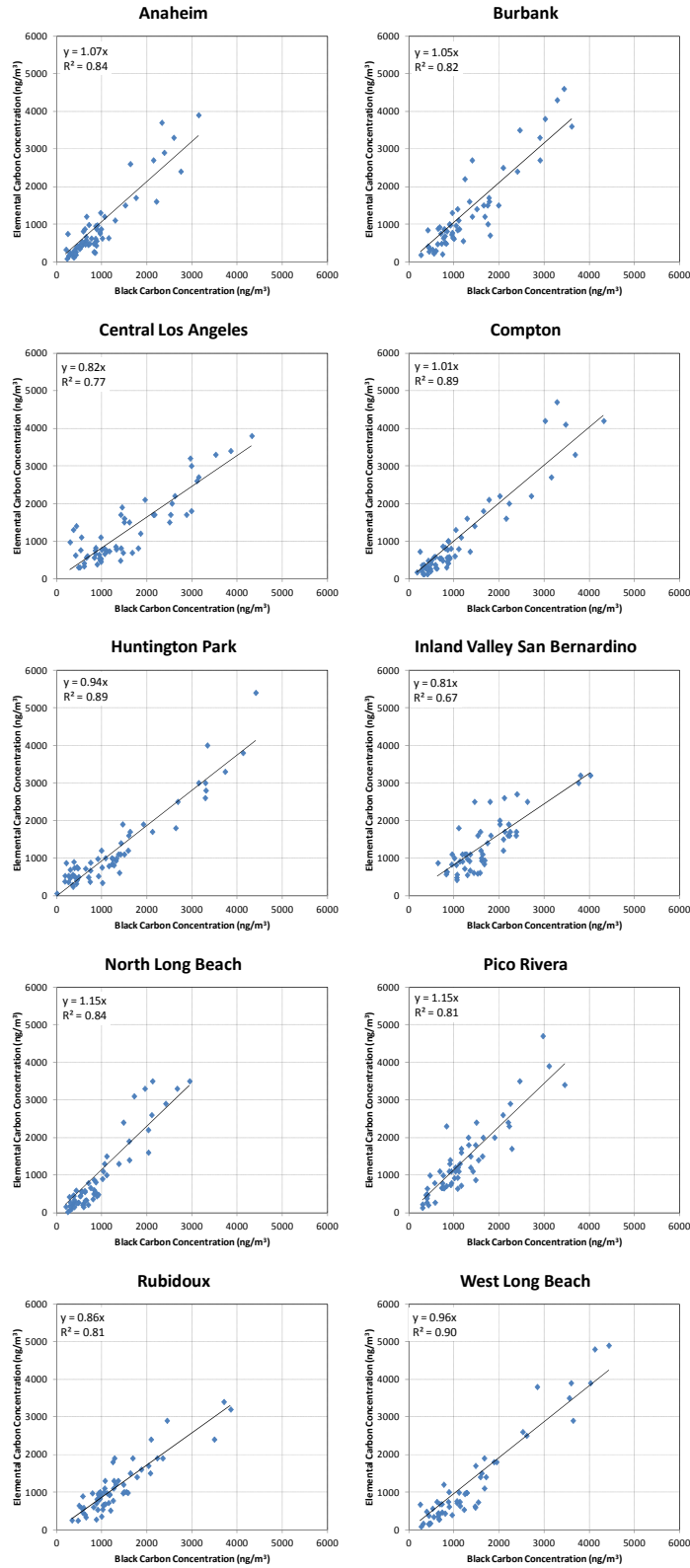


Figure 5 - Comparison of Daily Average BC and EC Concentration at Each MATES IV Site.

Generally, particulate BC measured by the Aethalometer is a reliable surrogate for particulate EC measured by subsequent chemical analysis on the filter, especially in the cases where the trends and changes of ambient BC concentrations are of interest, or in large air quality monitoring networks. The concurrent measurement of BC and EC with both optical and thermal-optical methods however, provides additional information for identifying emission sources.

VI.3 Summary

Long-term measurements of BC concentrations carried out from July 2012 to July 2013 in a network of 10 sampling sites located in the SCAB, were used to characterize the spatial and temporal variations in BC concentrations and their association to meteorology and local sources, most notably, vehicular traffic.

One of the major areas of interest in air monitoring is to evaluate relatively cheap continuous monitoring technologies in order to reduce the frequency and amount of filter based technologies that are extremely expensive and time consuming. Aethalometers offer a tremendous opportunity to move towards more desired continuous, higher time resolution sampling (as short as 1-min) and supplement or reduce the need for expensive, time consuming filter based sampling. As discussed in this Appendix, BC show significant temporal variations in all scales; annual, seasonal and diurnal (in addition to weekday/weekend). The diurnal variations at most sites have a distinct morning peak that is probably associated with increased traffic density during rush hours. The diurnal variations are more pronounced during winter season. This effect is particularly pronounced during the colder months, when higher traffic density is coupled with a shallower mixing height.

The seasonal variations are mostly related to changes in meteorology and the boundary layer dynamics. High concentrations are generally observed in colder months. Moreover, biomass burning smoke may contribute to the observed elevated BC concentrations in winter. In general, local traffic sources, meteorological conditions and boundary layer dynamics are the most important parameters influencing the BC concentrations.

Various existing regulations and emission reduction strategies are designed to control the atmospheric concentration of BC, either directly by reducing diesel emissions, or indirectly by reducing total PM emissions. Measures to mitigate BC will probably also reduce OC and PM emissions. Therefore, mitigating emissions from diesel-engine sources may offers the potential to reduce near-term climate forcing, air toxic exposure, as well as PM exposure.

VI.4 References:

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APPENDIX VII

MATES IV

DRAFT FINAL REPORT

Ultrafine Particle Measurements at Fixed Sites

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VII-1 Background

There is continuing concern about the potential health effects caused by exposure to criteria pollutants and air toxics emitted from both gasoline and diesel vehicles (HEI, 2010), especially for people living in urban areas. Motor-vehicle emissions consist of a complex mixture of solid, liquid and gaseous hydrocarbons, metals, black carbon (BC), volatile organic compounds (VOC), sulfates and nitrates that range in size from a few nanometers to several microns in aerodynamic diameter. Over the past decade, regulators in the United States and California have taken major steps to reduce the adverse human health impacts from vehicular emissions. In 1998, the California Air Resources Board (CARB) classified diesel exhaust PM as a toxic air contaminant, citing its potential to cause cancer and other health problems. The U.S. EPA concluded that long-term exposure to diesel engine exhaust is likely to pose a lung cancer hazard to humans and can also contribute to other acute and chronic health effects. The International Agency for Research on Cancer (IARC), part of the World Health Organization (WHO), recently classified diesel exhaust as a human carcinogen (Benbrahim-Tallaa et al., 2012). The MATES studies conducted by the South Coast Air Quality Management District (SCAQMD) are designed to identify and quantify health risks associated with major known toxic air contaminants within the South Coast Air Basin (SCAB). In the MATES III Study, diesel particulate matter (DPM) was identified as the major contributor to carcinogenic risk due to exposure to air toxics, accounting for 84% of the total carcinogenic risk (SCAQMD MATES III Report, 2008). In the current MATES IV assessment, DPM accounts for 68% of the average carcinogenic risk in the SCAB (Executive Summary - Figure ES-2).

Federal, state and local regulatory efforts have been focused on reducing the mass of PM emitted in the ambient air. Current PM regulations are focused on two size fractions: PM₁₀ (particles with a diameter less than 10 μm) and PM_{2.5} (diameter < 2.5 μm). Recently, however, there is a growing concern in the public health community about the contribution of the ultrafine particles (UFPs; diameter < 0.1 μm) to the overall health impacts of PM. While substantial effort has been made to characterize the health risks associated with exposure to diesel PM, information about the health impacts of UFPs is just recently emerging. These very minute particles (consisting primarily of organic material, soot, and trace elements) have a different chemical composition than the larger PM fractions (PM_{2.5} and PM₁₀). Due to their small size, UFPs are not a major factor in measurements of overall PM mass, but comprise a significant majority (90%) of the number of airborne particles in the atmosphere (Stanier et al., 2004a and Zhang et al., 2004). For this reason, their concentration is usually expressed in terms of total particle count (i.e. # per cubic centimeter of sampled air, or #/cm³), even though a small fraction of the particles being counted may be above 100 nm. UFPs are emitted from almost every fuel combustion process, including diesel, gasoline, and jet engines. Although there are many sources of UFPs in the atmosphere, vehicle exhaust is the major contributor to UFP concentrations in urban areas, particularly in proximity to major roads. Consequently, there is growing concern that people living in close proximity to highly trafficked roadways and other sources of combustion-related pollutants (e.g. airports, refineries, and railyards) may be exposed to significant levels of UFPs as well as air toxics. In a seminal study conducted in the Los Angeles Basin, the number concentration of UFPs dropped dramatically with increasing distance from busy freeways (Zhu et al., 2002a,b). UFP concentrations were typically highest on or in close proximity to freeways and decreased exponentially to upwind background levels. One type of ultrafine combustion

particles are formed in the engine or tailpipe, and are mostly sub-micrometer agglomerates of carbonaceous material ranging in size from 30 to 500 nm. These particles may also contain metallic ash (from lubricating oil additives and from engine wear), adsorbed or condensed hydrocarbons, and sulfur compounds (Morawska et al., 2008). Another type of ultrafine particle is formed as hot exhaust gases are expelled from the tailpipe. They quickly cool and either condense on existing particles or nucleate to form large numbers of very small particles in the air. They consist mainly of hydrocarbons and hydrated sulfuric acid, are generally 30 nm or less in diameter and are most commonly observed near busy freeways, especially those where a large fraction of heavy-duty diesel vehicles is present (Westerdahl et al., 2005; Ntziachristos et al., 2007; Keskinen and Ronkko, 2010). Once released into the atmosphere, UFPs undergo dilution with ambient air and are subject to chemical reactions and physical processes such as evaporation, condensation, and coagulation. Thus, particles measured away from roadways and other emission sources generally have different characteristics than those measured immediately after formation. Wind speed and direction, precipitation, relative humidity, and temperature are the main meteorological factors affecting UFP transport. In addition to primary UFP emissions, secondary formation of UFPs in the atmosphere through photochemical reactions also contributes to total number concentrations. Particle formation by secondary processes depends strongly on the intensity of solar radiation and is more distinct in summers. Once formed, secondary particles are also transformed by coagulation and condensation in the atmosphere.

VII-2 UFP Measurements During MATES IV

There are very few if any long-term studies of human population exposure to UFPs, as this species is not typically measured in monitoring networks throughout the U.S. Concentrations of UFPs vary geographically, and it is not clear how well central site monitors may capture actual local exposures. Generally there is little or no correlation between ambient particle numbers and mass (Sardar et al., 2004); therefore, measurements of ambient particle number concentrations are necessary to complement the existing PM mass measurements. UFPs have a relatively short lifespan and are strongly dependent on local sources and atmospheric conditions; thus, their number concentrations can vary significantly on short temporal and spatial scales. In order to accurately estimate human exposure and the subsequent health impacts of UFPs, particle number would need to be measured across more spatially resolved monitoring networks.

The purpose of the MATES program is to conduct a series of studies to assess cancer risk from exposure to toxic air contaminants in the SCAB. These studies are comprised of air toxics monitoring and analysis, development of toxic emissions inventories, and regional modeling and evaluations. MATES IV is intended as a follow-up study to MATES II and III; unique to MATES IV is the incorporation of continuous UFP and BC concentration measurements, even though they are not technically specified as air toxics. Details of the sites, their characteristics and sampling protocols are given in MATES IV, Chapter 2. The sampling duration for all fixed stations was one year, ranging from July 1, 2012, to June 30, 2013, excluding Huntington Park, where sampling begun in August 1, 2012, and ended in July 31, 2013. Additionally, local-scale near source monitoring of UFP and BC concentrations was performed in the vicinity of the Los Angeles International Airport (LAX), San Bernardino Railyards, and Mira Loma to assess near-source air toxic emissions. This appendix will focus on the fixed site UFP measurements in the

SCAB as part of MATES IV. Results from the local-scale UFP measurements will be reported separately.

Since there is no “standard” measurement technique or calibration standard by which different instruments can be evaluated and compared, UFP measurements are somewhat operationally defined. The MATES IV UFP continuous real-time minute data was collected at 10 fixed sites utilizing the Teledyne Advanced Pollution Instrumentation (TAPI) Ultrafine Particle Monitor Model 651. This is a continuous laminar flow condensation particle counter (CPC) that uses water to grow UFPs to a larger, detectable size. UFPs are grown through condensation in a controlled super-saturation environment to larger sizes and then measured (counted) using a photodetector. CPCs provide the total number concentration of particles above 7 nm, in real-time. Although CPCs are the most widely used instruments for measuring particle number concentrations, they do not provide any information on the original size of the particles counted. Additional technical details on this CPC model and the results of a test evaluation conducted by SCAQMD and UCLA prior to the beginning of MATES IV are reported elsewhere (Lee et al., 2013). For further information and maintenance instructions, please refer to the Teledyne Advanced Pollution Instrumentation (TAPI) Ultrafine Particle Monitor Model 651 Operation Manual.

VII-3 Data Validation

The particle number count data was downloaded from the instrument using USB drives on a weekly basis. Minute data for each site was validated and examined for anomalies. During the sampling period we experienced minor problems with the USB drives, which led to some data loss and a slightly decreased data recovery. Hourly average particle number concentrations were calculated for each station (i.e., Anaheim, Burbank, Central Los Angeles, Compton, Inland Valley San Bernardino, Huntington Park, North Long Beach, Pico Rivera, Rubidoux, and West Long Beach) from the corresponding one minute data only when the data recovery was 75% or higher (i.e., when more than 45 one minute data within the hour were valid). The hourly data recoveries for each sampling location are provided in Figure VII-1. The overall hourly data recovery for the ten MATES IV sites combined was 82%.

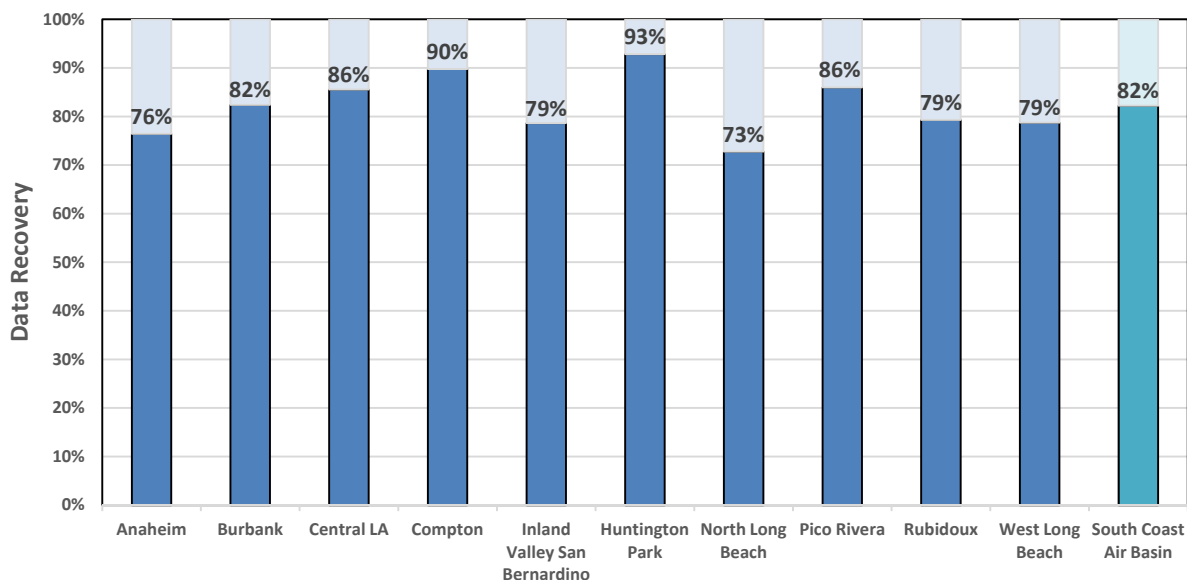


Figure VII-1: Ultrafine particle hourly data completeness for the MATES IV sites.

Three collocation studies were performed against a “Gold Standard” CPC (i.e., a reference instrument that was only used for collocation purposes) as a QA/QC check and to determine if correction factors should have been applied to the data to account for intra-model variations between CPC performances. These studies indicated that all ten site instruments were in good agreement with the “Gold Standard” CPC (i.e., high correlation coefficients; slopes close to one, and small intercepts). Thus, no corrections were applied to the field data.

VII-4 Results and Discussion

Annual Trends

The UFP annual means and standard deviation (error bars) for each site and the SCAB are shown in Figure VII-2. The UFP concentrations varied from site to site, with the highest annual averages measured at West Long Beach and Huntington Park. These sites are near potential emission sources associated with goods movement to and from the San Pedro Bay Ports and other vehicular sources. West Long Beach is located in a mixed residential and industrial area, approximately 2 km inland of the Port of Los Angeles and the Port of Long Beach, the busiest port complex in the USA. It is situated immediately downwind of a railyard and the Terminal Island Freeway 103, where heavy truck traffic consists of 22-25% of the average annual daily traffic (AADT; <http://traffic-counts.dot.ca.gov/>). Sampling locations with high AADT comprising of a greater percentage of heavy-duty diesel trucks (HDDT) have been shown to have elevated levels of particle number count compared to sites with less traffic and more gasoline vehicles (Zhu et al. 2004). The Huntington Park location is in a residential area, downwind of the Alameda Corridor, a freight rail connecting the downtown Los Angeles rail system to the San Pedro Bay Ports. Although Compton is also located in a residential area downwind from the railroad, it is further east than Huntington Park, potentially resulting in a decreased average annual UFP concentration. The Central L.A. site experienced some construction activity during

the sampling duration, which might have caused increased UFP concentrations. Rubidoux, an inland receptor site, had the lowest annual UFP concentration average.

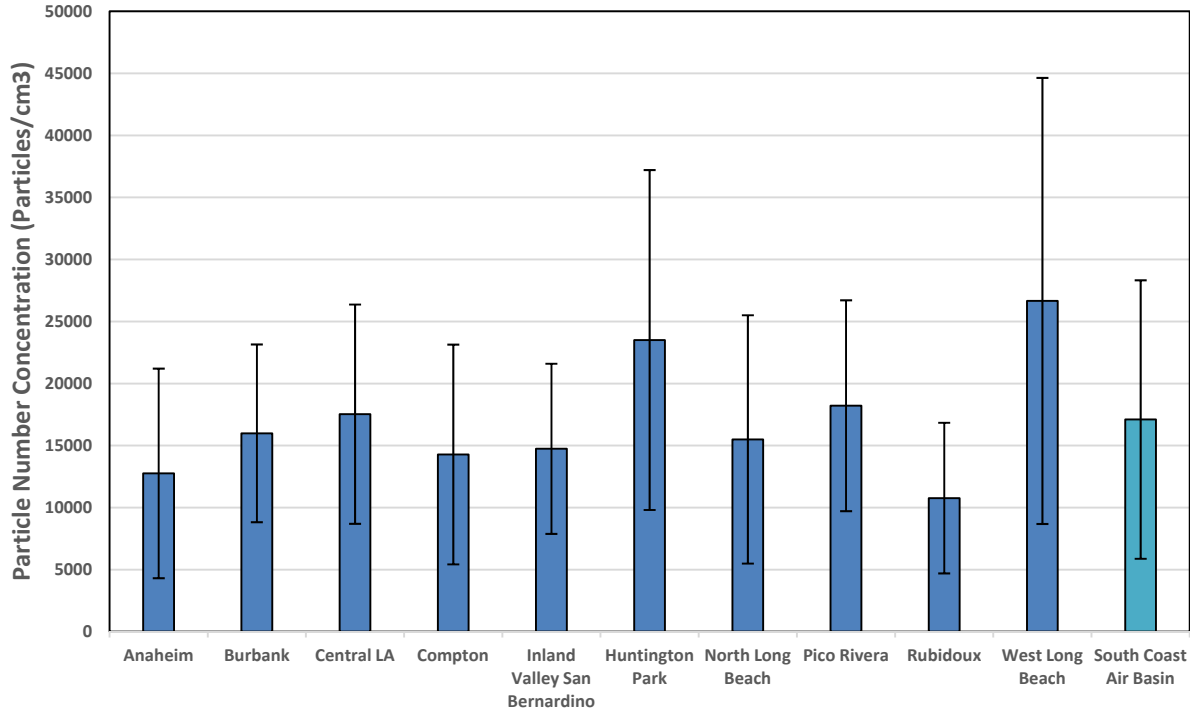


Figure VII-2: Mean and standard deviation for the MATES IV sites.

The box whisker plot in Figure VII-3 summarizes the 10th percentile, first quartile, median, mean, third quartile, and 90th percentile hourly UFP concentrations at each MATES IV site in the SCAB. The plot indicates that the Anaheim, Burbank, Central L.A., Compton, Inland Valley San Bernardino, Pico Rivera, and Rubidoux sites were characterized by a relatively low UFP variability, while the Huntington Park, North Long Beach, and West Long Beach stations had wider UFP ranges and distributions. The relatively high variability among these sites is indicative of their vicinity to one or more emission sources of UFPs (e.g., major roadways).

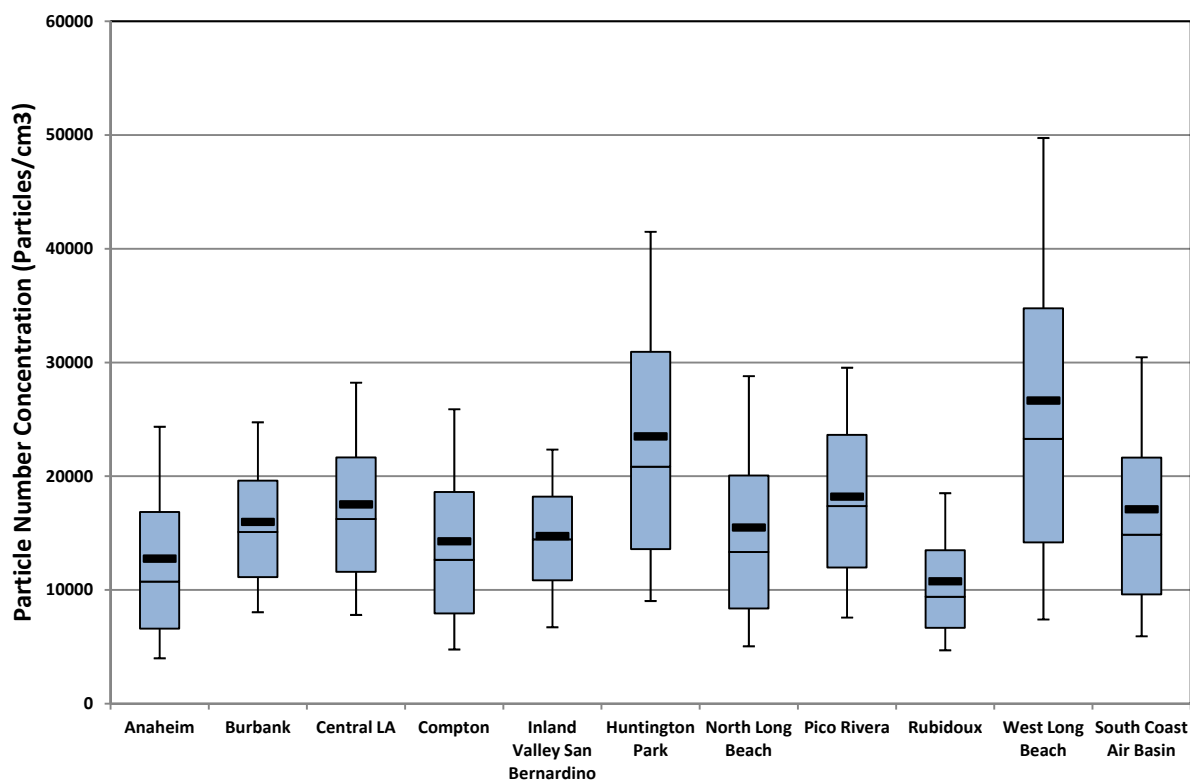


Figure VII-3: Box whisker plot showing the 90% quartile, first quartile, median, mean, third quartile and 10% quartile observed values for the MATES IV sites.

The annual mean SCAB UFP diurnal trend based on data from the 10 fixed MATES IV sites is presented in Figure VII-4. This trend is characterized by a trimodal distribution consisting of a morning peak (05:00 to 09:00), midday peak (10:00 to 16:00), and a less distinct evening peak (17:00 to 02:00). During the early morning, there is a pronounced UFP increase probably due to heavy rush hour traffic and a lower atmospheric mixing height. As the day progresses and the atmosphere is heated, the mixing height rises, leading to a dilution and subsequent decrease of traffic emissions. In the late morning and early afternoon, a second peak emerges due to the formation of secondary UFPs from photochemical processes. The UFP concentration decreases towards the late afternoon, but background levels remain elevated. A third, less pronounced peak due to the trapping of overnight emissions by the nocturnal inversion emerges towards the early evening and persists throughout the night.

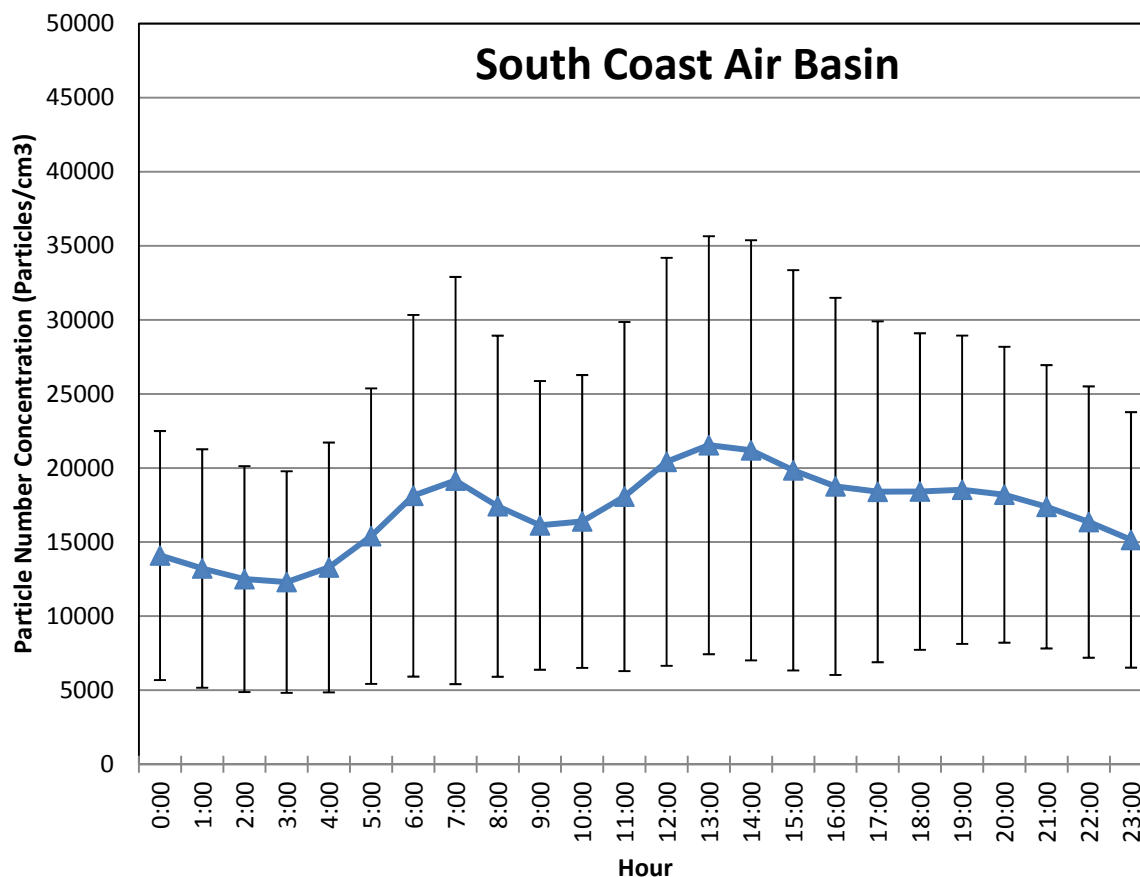


Figure VII-4: Diurnal variation of ultrafine particle concentration in the South Coast Air Basin during MATES IV.

Seasonal Trends

UFP concentrations were averaged by season to characterize seasonal variations. Seasons were divided into fall (September-November), winter (December-February), spring (March-May), and summer (June-August). Figure VII-5 displays the averaged seasonal UFP concentrations at all 10 fixed monitoring sites and for the SCAB. Huntington Park and West Long Beach showed the highest mean seasonal UFP concentrations throughout the entire duration of sampling. The maximum UFP levels observed for all seasons were in West Long Beach, except during winter, when the UFP concentration at Huntington Park was the highest. In most instances, the maximum average particle number concentrations at all sites were observed during winter months with the exception of Inland Valley San Bernardino, where the winter average was the lowest and the summer average the highest. In the wintertime, emissions from primary sources dominate the UFP concentrations due to stagnant atmospheric conditions. In addition, the coastal region experiences surface temperature inversions and weak onshore wind flow during this time of the year, leading to increased UFP levels near the coastal regions, especially near emission sources, such as freeways. During the summertime, increased UFP concentrations inland are influenced by local emission sources and long range advection of upwind sources due

to a strong onshore flow and enhanced photochemical activities. Differences in particle number concentration between the winter and summer seasons are consistent with previous studies that found higher UFP levels in the winter versus the summer months (Kittleson 1998, Kim, et al. 2000, Wang, et al. 2013). In a study conducted to compare seasonal air pollution variations near the I-710 and the I-405 freeways, lower ambient temperatures produced fewer particles in the 50-200nm size range (on the lower size limit of the accumulation mode) and a larger amount of particle number concentrations in the 6-25nm (nuclei mode) size range at both sites (Zhu et al. 2004).

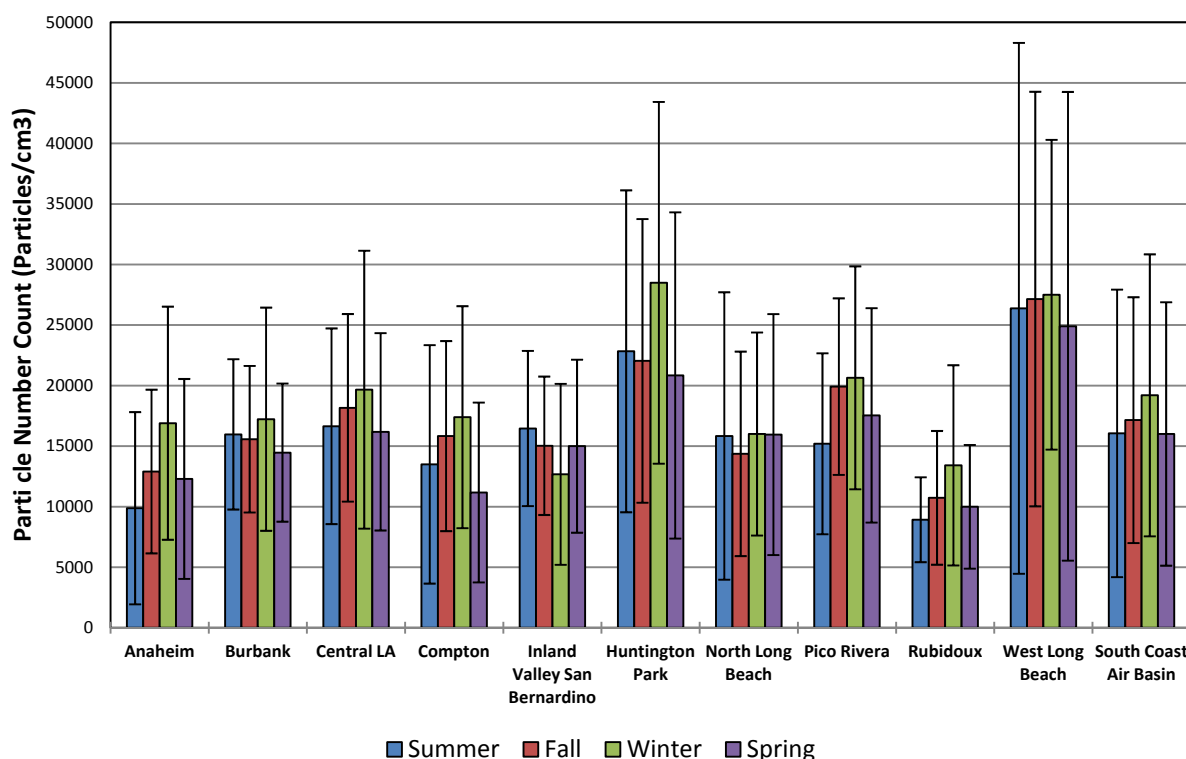


Figure VII-5: Averaged seasonal particle number concentration for the MATES IV sites.

The influence of meteorological conditions on UFP concentrations is further demonstrated in the diurnal trend differences between winter and summer profiles for the SCAB (Figure VII-6) and for each individual MATES site (Figure VII-7). The winter profile is characterized by a bimodal distribution and is distinctly different from that observed in the summer. Traffic emissions generated during the winter morning commute produces a peak during rush-hour that extends until late morning. All sites show a peak during the early morning commute hours (05:00 to 10:00) and evening commute hours (19:00 to 22:00) due to a combination of decreased atmospheric mixing height and enhanced coagulation and nucleation. As the temperature increases in the afternoon, the mixing height rises and the UFP concentrations drop, reaching a minimum in midday. When evening approaches, the nocturnal inversion layer causes an elevation in particle number count, producing a peak that persists throughout the late evening hours. Previous studies by Singh et al. 2006 and Wang, et al. 2012 have found similar winter

diurnal trends. However, these patterns are less pronounced in the spring and fall. During these seasons, especially in the spring, the morning commute peak decreases to near background levels at all stations. This observation was most likely due to warmer overnight temperatures, a higher mixing height, and a subsequent dispersion of air pollutants. Comparable spring and fall diurnal profiles were also observed in previous studies conducted in the SCAB (Sioutas et al. 2011). Throughout the summer, secondary formation of UFP through photochemical reactions generates a midday peak (10:00 to 17:00). Particles smaller than 60nm in aerodynamic diameter have been shown to contribute to this increase in particle number concentration (Singh et al. 2006). This midday photochemical peak is more pronounced in the coastal region and less distinct in the inland sites (Inland Valley San Bernardino, Rubidoux). The Inland Valley San Bernardino location did not reflect the same seasonal trends as Rubidoux. In fact, a large broad peak begins in the early morning commute hours at 04:00, reaches a maximum at 14:00, and remains elevated during the evening. This was the only site where the summer evening particle number concentrations were higher than the winter evening concentrations. The photochemical peak was also in an earlier time frame compared to the other sampling locations.

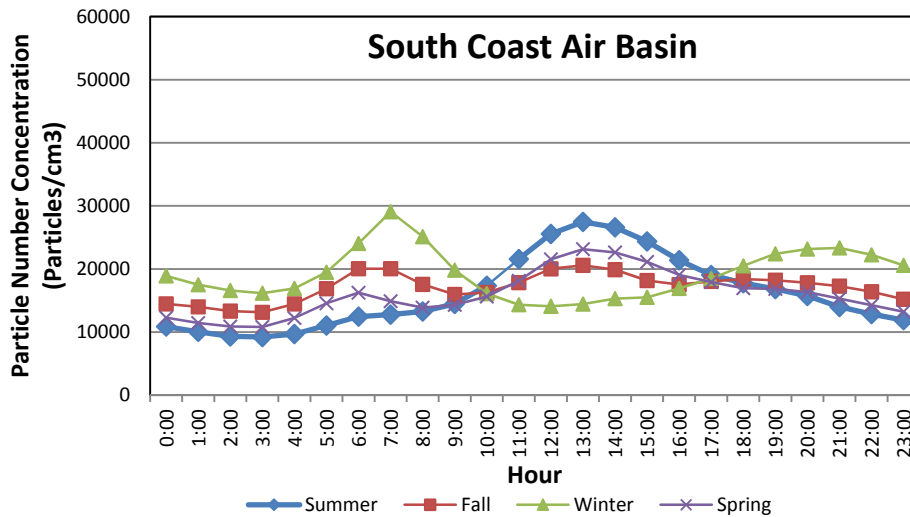


Figure VII-6: Averaged seasonal diurnal particle number concentration for SCAB.

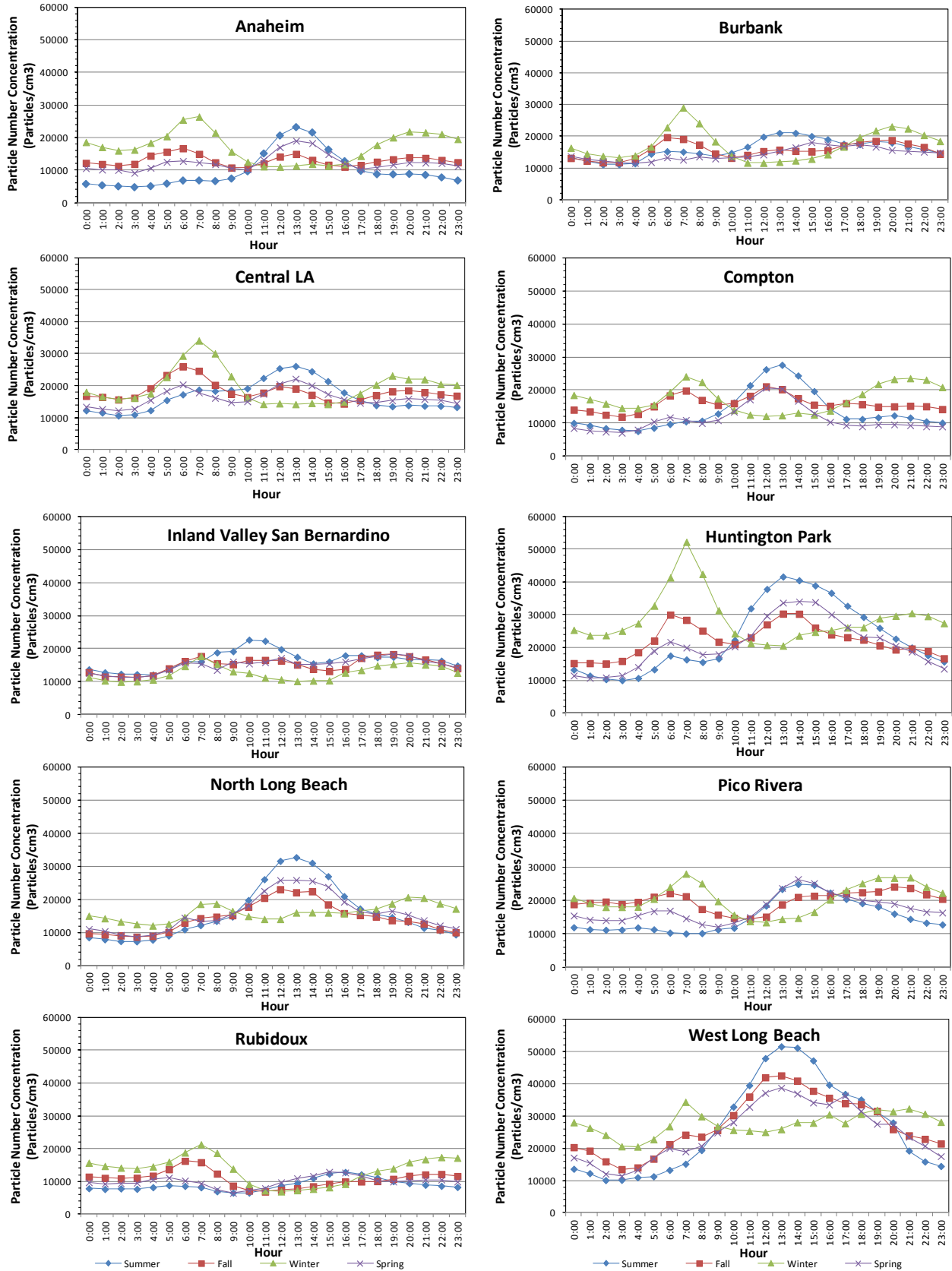


Figure VII-7: Averaged seasonal diurnal particle number concentration at each site.

Weekday/Weekend Diurnal Trends

The effect of traffic emission sources and of meteorological factors is also reflected in the day of the week diurnal UFP distribution plots. Figure VII-8 and Figure VII-9 display seasonal averages for each day of the week for the SCAB and for each individual MATES IV site, respectively. The lowest UFP averages were typically observed on Sundays during all seasons, which is consistent with previous studies (Sabaliauskas et al. 2013, Sioutas 2011, Tiwary et al. 2012). Conversely, the highest UFP levels were observed on Tuesdays and/or Fridays. UFP concentrations were generally higher on weekdays and followed a similar weekly pattern, with the exception of Monday which is associated with lower concentrations than the other weekdays. Similar differences between weekdays and weekends patterns have been observed in various studies (Morawska et al. 2002, Fine et al. 2004). West Long Beach had the highest weekday and weekend average, and the greatest difference between the weekdays and weekends (Figure VII-9). Rubidoux had the lowest weekday and weekend average, with the lowest difference between weekdays and weekends. This weekday/weekend distinction is attributed to vehicular traffic emissions generated during the weekday commute. Sioutas et al. (2011) also observed day of the week differences between sites near the ports versus near Downtown Los Angeles. There was a larger particle number reduction at sampling locations near the vicinity of the ports on weekends versus weekdays when compared to L.A. This greater reduction in UFP concentrations demonstrates that heavy-duty diesel vehicles are important contributors to ambient UFP.

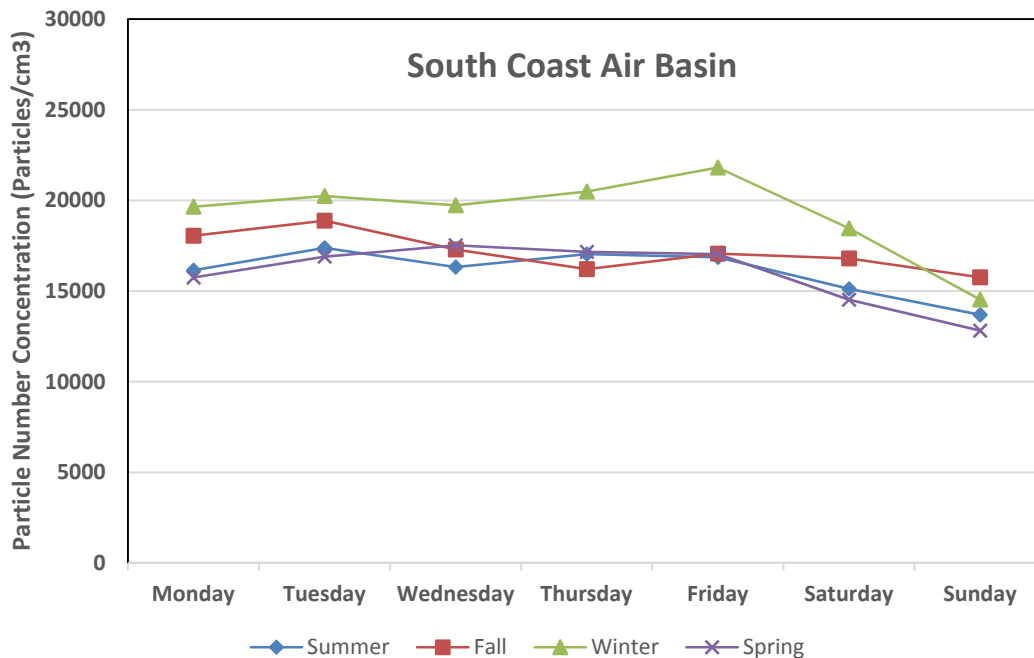


Figure VII-8: Averaged seasonal day of the week particle number concentration for the South Coast Air Basin.

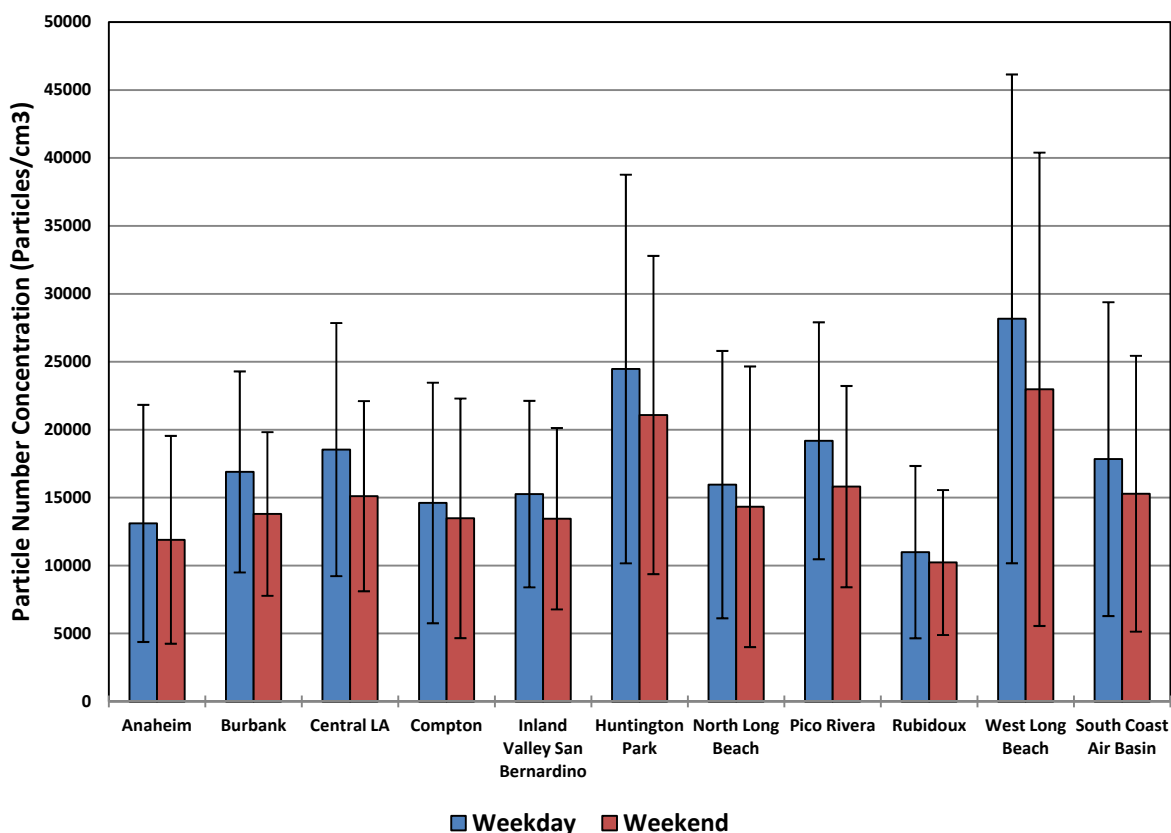


Figure VII-9: Averaged weekday and weekend particle number concentrations for each MATES IV site.

VII-5 Summary

Continuous real-time UFP measurements collected at ten SCAQMD sites during MATES IV showed high temporal and spatial variability. A variety of factors, such as the distance to the nearest emission source, the type of emission source, the traffic volume, wind speed, wind direction, relative humidity, and temperature (among other factors) could all influence the concentration, composition, and dispersion of UFPs. Atmospheric parameters could fluctuate rather rapidly throughout the day, therefore short time scales, particularly on an hourly or less basis, should be used to examine the diurnal trends of UFPs. Despite the high spatial and temporal differences measured across the SCAB, the average diurnal UFP concentrations at most MATES IV sites followed a similar trend, rising and falling throughout the day, with distinct peaks during the early morning commute, midday, and evening commute. As shown here and reported in previous studies, the ambient UFP concentration in urban environments is closely related to the temporal variation in traffic density, with highest levels observed on weekdays during rush hours (Hussein, et al., 2004; Morawska, et al., 2008; AQMD, 2012). Photochemical particle formation also contributes to increasing the afternoon number concentration of UFPs, especially in the summer.

Due to the sharp drop in UFP concentrations over short distances from the emission sources, more detailed local-scale studies are needed to develop a better understanding of the spatial UFP concentrations in the SCAB. For example, in a recent study conducted by the SCAQMD near the Santa Monica Airport (SMO; a general aviation airport), 1-min average UFP levels as high as 2,600,000 #/cm³ were measured 35 m downwind of the runway during jet aircraft take-off (AQMD, 2011). One-minute maxima between 1,500,000 and 2,000,000 #/cm³ (also associated with jet aircraft departures) were observed 100 m downwind of the runway in the backyard of a local residence.

Several meteorological factors contribute to the seasonal variability in the concentration of atmospheric PM and UFPs; these include:

- Lower mixing layer height and greater atmospheric stability in winter, which tend to increase particle levels by limiting vertical atmospheric mixing
- Lower winter temperature, which leads to increased nucleation of volatile combustion products, particularly during morning rush hours
- Higher photochemical activity in the summer, which favors photochemical particle formation

In the wintertime most of the factors leading to an increase in particle concentration tend to occur early in the morning (i.e. rush hour traffic, low mixing height, low wind speed and temperature). Summer minima are usually associated with increased ambient temperature (which does not favor the nucleation process), although increased photochemical activity can lead to new UFP formation, which typically occurs midday.

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APPENDIX VIII

MATES IV

DRAFT FINAL REPORT

2012 Emissions by Major Source Category

Authors

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Tom Chico

Appendix VIII

2012 Emissions by Major Source Category

The 2012 toxic inventory by major source category is contained in a table in this appendix. Toxic gases are provided first, in alphabetical order, followed by the toxic particulates, also in alphabetical order. The particulates are estimated total mass from all size fractions.

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Acetaldehyde	Acetone	Benzene	1,3 Butadiene	Carbon tetrachloride	Chloroform	1,1 Dichloroethane	1,4 dioxane	Ethylene dibromide
Fuel Combustion										
10	Electric Utilities	21.82	19.99	91.08	0.51	0.00	0.00	0.00	0.00	0.00
20	Cogeneration	0.18	0.00	0.67	0.00	0.00	0.00	0.00	0.00	0.00
30	Oil and Gas Production (combustion)	1.89	1.58	25.39	0.04	0.00	0.00	0.00	0.00	0.00
40	Petroleum Refining (Combustion)	1.85	0.07	12.80	0.12	0.00	0.00	0.00	0.00	0.00
50	Manufacturing and Industrial	23.28	11.95	174.17	0.40	0.00	0.00	0.00	0.00	0.00
52	Food and Agricultural Processing	0.62	0.57	8.22	0.03	0.00	0.00	0.00	0.00	0.00
60	Service and Commercial	26.13	23.24	720.80	1.11	0.00	0.00	0.00	0.00	0.00
99	Other (Fuel Combustion)	35.19	35.18	17.62	3.95	0.00	0.00	0.00	0.00	0.00
	Total	110.96	92.58	1050.76	6.16	0.00	0.00	0.00	0.00	0.00
Waste Disposal										
110	Sewage Treatment	0.24	0.26	1.52	0.00	0.11	11.72	0.00	0.05	0.04
120	Landfills	0.00	114.60	244.08	0.00	0.12	0.83	65.52	0.00	0.00
130	Incineration	0.00	0.00	59.87	0.00	0.00	0.00	0.00	0.00	0.00
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	0.00	72.23	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.24	187.08	305.47	0.00	0.23	12.56	65.52	0.05	0.04
Cleaning and Surface Coatings										
210	Laundrying	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	0.00	2981.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	0.00	941.43	1.80	0.00	0.00	0.00	0.00	0.00	0.00
240	Printing	0.00	1.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	Adhesives and Sealants	0.00	999.62	1.46	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	4923.39	3.26	0.00	0.00	0.00	0.00	0.00	0.00
Petroleum Production and Marketing										
310	Oil and Gas Production	0.00	0.00	31.65	0.00	0.00	0.00	0.00	0.00	0.00
320	Petroleum Refining	0.00	0.00	46.54	0.00	0.00	0.00	0.00	0.00	0.00
330	Petroleum Marketing	0.03	0.00	211.16	0.00	0.03	0.03	0.00	0.00	0.03
399	Other (Petroleum Production and Marketing)	0.00	0.00	0.35	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.03	0.00	289.70	0.00	0.03	0.03	0.00	0.00	0.03

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Acetaldehyde	Acetone	Benzene	1,3 Butadiene	Carbon tetrachloride	Chloroform	1,1 Dichloroethane	1,4 dioxane	Ethylene dibromide
Industrial Processes										
410	Chemical	34.88	47.04	240.40	428.03	5.63	0.75	0.00	0.00	0.00
420	Food and Agriculture	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
430	Mineral Processes	0.04	0.06	13.70	0.02	0.01	0.00	0.00	0.00	0.00
440	Metal Processes	0.36	0.54	3.13	0.18	0.06	0.01	0.00	0.00	0.00
450	Wood and Paper	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
460	Glass and Related Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
499	Other (Industrial Processes)	4.36	259.11	58.23	1.60	0.74	0.14	0.00	0.00	0.05
	Total	39.64	306.75	315.47	429.83	6.43	0.90	0.00	0.00	0.05
Solvent Evaporation										
510	Consumer Products	0.00	11441.16	2.18	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	7.57	1674.86	18.29	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing	0.00	0.00	4.02	0.00	0.00	0.00	0.00	0.00	0.00
	Total	7.57	13116.16	24.48	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Processes										
610	Residential Fuel Combustion	1328.39	980.24	229.10	0.00	0.00	0.00	0.00	0.00	0.00
620	Farming Operations	0.00	1342.81	0.00	0.00	0.00	0.00	0.00	0.00	0.00
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
660	Fires	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
670	Waste Burning and Disposal	0.00	0.00	0.00	106.36	0.00	0.00	0.00	0.00	0.00
690	Cooking	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	1328.39	2323.05	229.10	106.36	0.00	0.00	0.00	0.00	0.00

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Acetaldehyde	Acetone	Benzene	1,3 Butadiene	Carbon tetrachloride	Chloroform	1,1 Dichloroethane	1,4 dioxane	Ethylene dibromide
Onroad Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	282.65	169.56	1973.24	368.37	0.00	0.00	0.00	0.00	0.00
722	Light Duty Trucks 1 (T1)	70.59	41.14	529.74	93.70	0.00	0.00	0.00	0.00	0.00
723	Light Duty Trucks 2 (T2)	111.42	65.52	797.25	148.61	0.00	0.00	0.00	0.00	0.00
724	Medium Duty Trucks (T3)	124.55	73.75	810.35	166.38	0.00	0.00	0.00	0.00	0.00
732	Light Heavy Duty Gas Trucks 1 (T4)	50.82	31.11	314.79	68.66	0.00	0.00	0.00	0.00	0.00
733	Light Heavy Duty Gas Trucks 2 (T5)	5.39	3.32	33.80	7.30	0.00	0.00	0.00	0.00	0.00
734	Medium Heavy Duty Gas Trucks (T6)	12.97	8.14	74.63	17.59	0.00	0.00	0.00	0.00	0.00
736	Heavy Heavy Duty Gas Trucks ((HHD)	2.67	1.58	15.18	3.59	0.00	0.00	0.00	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	101.57	103.70	27.64	2.62	0.00	0.00	0.00	0.00	0.00
743	Light Heavy Duty Diesel Trucks 2 (T5)	33.92	34.63	9.23	0.88	0.00	0.00	0.00	0.00	0.00
744	Medium Heavy Duty Diesel Truck (T6)	224.41	229.11	61.07	5.80	0.00	0.00	0.00	0.00	0.00
746	Heavy Heavy Duty Diesel Trucks (HHD)	821.62	838.83	223.59	21.23	0.00	0.00	0.00	0.00	0.00
750	Motorcycles (MCY)	60.92	33.40	365.88	80.25	0.00	0.00	0.00	0.00	0.00
760	Diesel Urban Buses (UB)	92.50	94.44	25.17	2.39	0.00	0.00	0.00	0.00	0.00
762	Gas Urban Buses (UB)	3.46	1.85	20.10	4.58	0.00	0.00	0.00	0.00	0.00
771	Gas School Buses (SB)	0.96	0.53	5.64	1.27	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	20.44	20.87	5.56	0.53	0.00	0.00	0.00	0.00	0.00
777	Gas Other Buses (OB)	3.59	2.30	19.77	4.89	0.00	0.00	0.00	0.00	0.00
779	Diesel Other Buses (OB)	37.06	37.84	10.09	0.96	0.00	0.00	0.00	0.00	0.00
780	Motor Homes (MH)	5.40	4.44	13.60	2.93	0.00	0.00	0.00	0.00	0.00
	Total	2066.93	1796.06	5336.32	1002.51	0.00	0.00	0.00	0.00	0.00
Other Mobile Sources										
810	Aircraft	272.81	24.42	122.44	109.86	0.00	0.00	0.00	0.00	0.00
820	Trains	305.03	311.42	83.01	7.88	0.00	0.00	0.00	0.00	0.00
833	Ocean Going Vessels	138.48	141.38	37.68	3.58	0.00	0.00	0.00	0.00	0.00
835	Commercial Harbor Crafts	82.31	84.03	22.40	2.13	0.00	0.00	0.00	0.00	0.00
840	Recreational Boats	472.63	253.97	1567.46	363.59	0.00	0.00	0.00	0.00	0.00
850	Off-Road Recreational Vehicles	32.38	15.63	150.06	27.64	0.00	0.00	0.00	0.00	0.00
860	Off-Road Equipment	1640.64	1371.10	2392.51	508.26	0.00	0.00	0.00	0.00	0.00
870	Farm Equipment	138.85	140.35	47.36	5.76	0.00	0.00	0.00	0.00	0.00
890	Fuel Storage and Handling	0.00	0.00	54.20	0.00	0.00	0.00	0.00	0.00	0.00
	Total	3083.14	2342.30	4477.12	1028.69	0.00	0.00	0.00	0.00	0.00
Total	Stationary	1486.84	20949.02	2218.24	542.34	6.69	13.49	65.52	0.05	0.11
Total	On-Road Vehicles	2066.93	1796.06	5336.32	1002.51	0.00	0.00	0.00	0.00	0.00
Total	Other Mobile	3083.14	2342.30	4477.12	1028.69	0.00	0.00	0.00	0.00	0.00
Total	Anthropogenic	6636.90	25087.38	12031.67	2573.54	6.69	13.49	65.52	0.05	0.11

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Ethylene dichloride	Ethylene oxide	Formaldehyde	Methyl ethyl ketone	Methylene chloride	MTBE	Naphthalene	p-Dichlorobenzene	Perchloroethylene
Fuel Combustion										
10	Electric Utilities	0.00	0.00	259.45	3.93	0.00	0.00	0.23	0.00	0.00
20	Cogeneration	0.00	0.00	4.91	0.00	0.00	0.00	0.00	0.00	0.00
30	Oil and Gas Production (combustion)	0.00	0.00	60.69	0.31	0.00	0.00	0.02	0.00	0.00
40	Petroleum Refining (Combustion)	0.00	0.00	284.39	0.01	0.00	0.00	0.02	0.00	0.00
50	Manufacturing and Industrial	0.00	0.00	1287.79	2.35	0.00	0.00	0.15	0.00	0.00
52	Food and Agricultural Processing	0.00	0.00	18.13	0.11	0.00	0.00	0.01	0.00	0.00
60	Service and Commercial	0.00	0.00	1548.25	4.55	0.00	0.00	0.34	0.00	0.00
99	Other (Fuel Combustion)	0.00	0.00	88.62	6.92	0.00	0.00	0.47	0.00	0.00
	Total	0.00	0.00	3552.22	18.19	0.00	0.00	1.24	0.00	0.00
Waste Disposal										
110	Sewage Treatment	0.06	0.05	1.25	0.00	18.02	0.00	0.00	1.78	14.68
120	Landfills	11.44	0.00	98.41	143.90	341.88	0.00	0.00	0.00	174.16
130	Incineration	0.00	0.00	1.89	0.00	0.00	0.00	0.00	0.00	0.00
140	Soil Remediation	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	11.50	0.05	101.55	143.90	359.90	0.00	0.00	1.78	188.84
Cleaning and Surface Coatings										
210	Laundrying	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2246.76
220	Degreasing	0.00	0.00	0.00	1112.36	5681.30	0.00	32.89	0.00	813.25
230	Coatings and Related Processes	0.00	0.00	0.00	2148.61	6.81	0.00	5.60	0.00	136.44
240	Printing	0.00	0.00	0.00	382.44	0.00	0.00	3.55	0.00	1.32
250	Adhesives and Sealants	0.00	0.00	0.00	840.54	26.75	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.00	3.38	0.00	0.00	0.00	0.00	0.00	0.00	0.18
	Total	0.00	3.38	0.00	4483.95	5714.86	0.00	42.05	0.00	3197.96
Petroleum Production and Marketing										
310	Oil and Gas Production	0.00	0.00	9.93	0.00	0.00	0.00	0.00	0.00	0.00
320	Petroleum Refining	0.00	0.00	621.16	0.00	0.00	0.00	0.12	0.00	0.00
330	Petroleum Marketing	0.00	0.00	0.03	0.00	0.00	0.03	3.44	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	0.00	631.12	0.00	0.00	0.03	3.55	0.00	0.00

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Ethylene dichloride	Ethylene oxide	Formaldehyde	Methyl ethyl ketone	Methylene chloride	MTBE	Naphthalene	p-Dichlorobenzene	Perchloroethylene
Onroad Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.00	0.00	951.40	26.48	0.00	0.00	104.38	0.00	0.00
722	Light Duty Trucks 1 (T1)	0.00	0.00	246.10	6.22	0.00	0.00	29.85	0.00	0.00
723	Light Duty Trucks 2 (T2)	0.00	0.00	380.69	10.08	0.00	0.00	42.65	0.00	0.00
724	Medium Duty Trucks (T3)	0.00	0.00	418.27	11.50	0.00	0.00	37.72	0.00	0.00
732	Light Heavy Duty Gas Trucks 1 (T4)	0.00	0.00	158.75	5.11	0.00	0.00	14.50	0.00	0.00
733	Light Heavy Duty Gas Trucks 2 (T5)	0.00	0.00	16.70	0.55	0.00	0.00	1.60	0.00	0.00
734	Medium Heavy Duty Gas Trucks (T6)	0.00	0.00	38.17	1.39	0.00	0.00	3.09	0.00	0.00
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.00	0.00	8.98	0.25	0.00	0.00	0.53	0.00	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.00	0.00	203.25	20.40	0.00	0.00	1.17	0.00	0.00
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.00	0.00	67.87	6.81	0.00	0.00	0.39	0.00	0.00
744	Medium Heavy Duty Diesel Truck (T6)	0.00	0.00	449.07	45.08	0.00	0.00	2.59	0.00	0.00
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.00	0.00	1644.14	165.04	0.00	0.00	9.50	0.00	0.00
750	Motorcycles (MCY)	0.00	0.00	233.38	4.55	0.00	0.00	12.36	0.00	0.00
760	Diesel Urban Buses (UB)	0.00	0.00	185.10	18.58	0.00	0.00	1.07	0.00	0.00
762	Gas Urban Buses (UB)	0.00	0.00	13.88	0.24	0.00	0.00	0.59	0.00	0.00
771	Gas School Buses (SB)	0.00	0.00	3.65	0.07	0.00	0.00	0.19	0.00	0.00
772	Diesel School Buses (SB)	0.00	0.00	40.90	4.11	0.00	0.00	0.24	0.00	0.00
777	Gas Other Buses (OB)	0.00	0.00	9.98	0.40	0.00	0.00	0.78	0.00	0.00
779	Diesel Other Buses (OB)	0.00	0.00	74.16	7.44	0.00	0.00	0.43	0.00	0.00
780	Motor Homes (MH)	0.00	0.00	15.36	0.79	0.00	0.00	0.40	0.00	0.00
	Total	0.00	0.00	5159.81	335.11	0.00	0.00	264.03	0.00	0.00
Other Mobile Sources										
810	Aircraft	0.00	0.00	783.16	0.30	0.00	1.11	34.76	0.00	0.00
820	Trains	0.00	0.00	610.39	61.27	0.00	0.00	3.53	0.00	0.00
833	Ocean Going Vessels	0.00	0.00	277.11	27.82	0.00	0.00	1.60	0.00	0.00
835	Commercial Harbor Crafts	0.00	0.00	164.71	16.53	0.00	0.00	0.95	0.00	0.00
840	Recreational Boats	0.00	0.00	1403.36	36.19	0.00	0.00	58.41	0.00	0.00
850	Off-Road Recreational Vehicles	0.00	0.00	99.71	2.02	0.00	0.00	4.41	0.00	0.00
860	Off-Road Equipment	0.00	0.00	3910.93	251.50	0.00	0.00	89.16	0.00	0.00
870	Farm Equipment	0.00	0.00	280.68	27.53	0.00	0.00	1.93	0.00	0.00
890	Fuel Storage and Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	0.00	7530.04	423.16	0.00	1.11	194.75	0.00	0.00
Total	Stationary	65.15	4.92	6195.97	6296.38	9900.51	0.08	237.11	3015.48	6670.38
Total	On-Road Vehicles	0.00	0.00	5159.81	335.11	0.00	0.00	264.03	0.00	0.00
Total	Other Mobile	0.00	0.00	7530.04	423.16	0.00	1.11	194.75	0.00	0.00
Total	Anthropogenic	65.15	4.92	18885.82	7054.65	9900.51	1.18	695.89	3015.48	6670.38

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Propylene oxide	Styrene	Toluene	Trichloro-ethylene	Vinyl chloride	Arsenic	Cadmium	Chromium	Diesel PM (DPM)
Fuel Combustion										
10	Electric Utilities	0.00	0.15	49.82	0.00	0.00	0.04	0.00	0.51	8.32
20	Cogeneration	0.00	0.00	3.91	0.00	0.00	0.00	0.00	0.04	0.00
30	Oil and Gas Production (combustion)	0.00	0.01	12.64	0.00	0.00	0.13	0.01	0.21	25.02
40	Petroleum Refining (Combustion)	0.00	0.02	6.31	0.00	0.00	0.00	1.13	12.78	0.00
50	Manufacturing and Industrial	0.00	0.11	104.94	0.00	0.00	0.62	0.17	2.10	115.78
52	Food and Agricultural Processing	0.00	0.01	4.20	0.00	0.00	0.01	0.02	0.19	3.13
60	Service and Commercial	0.00	0.26	356.85	0.00	0.00	1.23	0.15	1.94	231.19
99	Other (Fuel Combustion)	0.00	0.27	14.07	0.00	0.00	0.18	0.04	0.48	108.98
	Total	0.00	0.83	552.75	0.00	0.00	2.22	1.53	18.25	492.42
Waste Disposal										
110	Sewage Treatment	0.01	0.07	8.37	1.80	0.08	0.00	0.00	0.00	0.00
120	Landfills	0.00	0.00	4279.85	104.35	129.13	0.00	0.00	0.00	0.00
130	Incineration	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.01	0.00
140	Soil Remediation	0.00	0.00	1.05	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	0.00	0.00	395.52	0.00	0.00	0.02	0.02	0.25	0.00
	Total	0.01	0.07	4684.79	106.16	129.21	0.03	0.03	0.27	0.00
Cleaning and Surface Coatings										
210	Laundrying	0.00	0.00	0.00	0.13	0.00	0.00	0.00	0.00	0.00
220	Degreasing	0.00	2.61	737.85	675.38	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	0.00	0.42	11065.26	81.41	0.00	0.00	0.00	0.00	0.00
240	Printing	0.00	0.00	5.60	0.00	0.00	0.00	0.00	0.00	0.00
250	Adhesives and Sealants	0.00	0.00	257.45	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.00	0.00	79.11	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	3.03	12145.29	756.92	0.00	0.00	0.00	0.00	0.00
Petroleum Production and Marketing										
310	Oil and Gas Production	0.00	0.00	17.46	0.00	0.00	0.00	0.00	0.00	0.00
320	Petroleum Refining	0.00	0.00	97.99	0.00	0.00	2.32	0.00	0.00	0.00
330	Petroleum Marketing	0.03	0.00	2926.10	0.00	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.00	0.00	0.70	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.03	0.00	3042.25	0.00	0.00	2.32	0.00	0.00	0.00

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Propylene oxide	Styrene	Toluene	Trichloro-ethylene	Vinyl chloride	Arsenic	Cadmium	Chromium	Diesel PM (DPM)
Industrial Processes										
410	Chemical	0.38	1210.62	733.53	0.00	33.26	0.00	0.42	0.08	0.00
420	Food and Agriculture	0.00	0.00	12.11	0.00	0.00	0.00	0.00	0.07	0.00
430	Mineral Processes	0.00	0.11	4.78	0.00	0.03	10.38	2.78	8.78	0.00
440	Metal Processes	0.00	1.15	14.79	0.00	0.31	0.21	0.42	7.30	0.00
450	Wood and Paper	0.00	0.00	0.14	0.00	0.00	0.00	0.01	0.02	0.00
460	Glass and Related Products	0.00	0.00	1.44	0.00	0.00	3.20	0.00	0.88	0.00
470	Electronics	0.00	0.00	0.07	0.00	0.00	0.00	0.01	0.01	0.00
499	Other (Industrial Processes)	0.09	11.19	422.78	12.34	3.73	0.78	0.22	0.09	0.00
	Total	0.46	1223.07	1189.63	12.34	37.33	14.57	3.84	17.24	0.00
Solvent Evaporation										
510	Consumer Products	0.22	6.71	6690.65	746.06	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	0.00	1.08	144.69	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.00	0.00	0.17	0.00	0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing	0.00	0.00	9.55	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.22	7.79	6845.05	746.06	0.00	0.00	0.00	0.00	0.00
Miscellaneous Processes										
610	Residential Fuel Combustion	0.00	0.00	533.69	0.00	0.00	0.13	0.05	1.66	0.00
620	Farming Operations	0.00	0.00	0.00	0.00	0.00	0.04	0.05	0.54	0.00
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	1.18	1.46	15.56	0.00
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	2.67	0.62	3.49	0.00
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	0.30	0.26	0.34	0.00
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	0.12	0.16	1.63	0.00
660	Fires	0.00	0.00	55.11	0.00	0.00	0.00	0.02	0.01	0.00
670	Waste Burning and Disposal	0.00	0.00	1.08	0.00	0.00	0.24	0.02	0.01	0.00
690	Cooking	0.00	0.00	404.01	0.00	0.00	0.04	0.04	0.29	0.00
699	Other (Miscellaneous Processes)	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	0.00	993.96	0.00	0.00	4.70	2.67	23.51	0.00

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	Propylene oxide	Styrene	Toluene	Trichloro-ethylene	Vinyl chloride	Arsenic	Cadmium	Chromium	Diesel PM (DPM)
Onroad Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	0.00	99.67	6339.51	0.00	0.00	0.18	0.06	20.30	79.64
722	Light Duty Trucks 1 (T1)	0.00	24.56	1728.45	0.00	0.00	0.02	0.01	2.48	4.03
723	Light Duty Trucks 2 (T2)	0.00	39.97	2559.18	0.00	0.00	0.06	0.02	7.06	4.08
724	Medium Duty Trucks (T3)	0.00	45.59	2477.88	0.00	0.00	0.05	0.02	5.62	6.10
732	Light Heavy Duty Gas Trucks 1 (T4)	0.00	20.33	976.78	0.00	0.00	0.01	0.00	1.20	0.00
733	Light Heavy Duty Gas Trucks 2 (T5)	0.00	2.18	106.20	0.00	0.00	0.00	0.00	0.13	0.00
734	Medium Heavy Duty Gas Trucks (T6)	0.00	5.49	229.41	0.00	0.00	0.00	0.00	0.10	0.00
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.00	0.99	41.87	0.00	0.00	0.00	0.00	0.02	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.00	0.80	20.35	0.00	0.00	0.01	0.02	0.75	300.77
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.00	0.27	6.79	0.00	0.00	0.00	0.01	0.30	108.12
744	Medium Heavy Duty Diesel Truck (T6)	0.00	1.77	44.96	0.00	0.00	0.02	0.03	1.59	2174.00
746	Heavy Heavy Duty Diesel Trucks (HHD)	0.00	6.48	164.59	0.00	0.00	0.05	0.09	1.89	7120.00
750	Motorcycles (MCY)	0.00	18.41	943.84	0.00	0.00	0.00	0.00	0.16	0.00
760	Diesel Urban Buses (UB)	0.00	0.73	18.53	0.00	0.00	0.02	0.03	1.73	470.00
762	Gas Urban Buses (UB)	0.00	0.99	47.64	0.00	0.00	0.00	0.00	0.02	0.00
771	Gas School Buses (SB)	0.00	0.30	14.37	0.00	0.00	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.00	0.16	4.09	0.00	0.00	0.00	0.00	0.35	142.00
777	Gas Other Buses (OB)	0.00	1.59	61.25	0.00	0.00	0.00	0.00	0.03	0.00
779	Diesel Other Buses (OB)	0.00	0.29	7.42	0.00	0.00	0.00	0.01	0.15	338.00
780	Motor Homes (MH)	0.00	0.61	30.44	0.00	0.00	0.00	0.00	0.10	52.00
	Total	0.00	271.17	15823.57	0.00	0.00	0.43	0.30	44.01	10798.74
Other Mobile Sources										
810	Aircraft	0.00	20.75	72.06	0.00	0.00	0.00	0.00	0.53	0.00
820	Trains	0.00	2.41	61.11	0.00	0.00	0.00	0.08	0.01	1226.42
833	Ocean Going Vessels	0.00	1.09	27.74	0.00	0.00	0.00	0.00	0.00	1043.46
835	Commercial Harbor Crafts	0.00	0.65	16.49	0.00	0.00	0.00	0.02	0.01	519.39
840	Recreational Boats	0.00	58.23	3425.27	0.00	0.00	0.00	0.00	1.57	31.09
850	Off-Road Recreational Vehicles	0.00	4.41	409.43	0.00	0.00	0.00	0.00	0.02	0.00
860	Off-Road Equipment	0.00	85.20	4913.11	0.00	0.00	0.01	0.17	1.55	5739.73
870	Farm Equipment	0.00	1.43	51.63	0.00	0.00	0.00	0.02	0.02	620.77
890	Fuel Storage and Handling	0.00	0.00	256.23	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	174.18	9233.07	0.00	0.00	0.01	0.28	3.71	9180.86
Total	Stationary	0.73	1234.79	29453.72	1621.47	166.54	23.85	8.07	59.26	492.42
Total	On-Road Vehicles	0.00	271.17	15823.57	0.00	0.00	0.43	0.30	44.01	10798.74
Total	Other Mobile	0.00	174.18	9233.07	0.00	0.00	0.01	0.28	3.71	9180.86
Total	Anthropogenic	0.73	1680.14	54510.36	1621.47	166.54	24.29	8.65	106.98	20472.02

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	DPM2.5	Elemental carbon (EC)	EC2.5	Hexavalent chromium	Lead	Nickel	Organic carbon	Selenium	Silicon
Fuel Combustion										
10	Electric Utilities	8.04	670.83	668.97	0.03	0.05	0.47	4.05	0.00	0.05
20	Cogeneration	0.00	15.18	15.06	0.00	0.00	0.04	0.00	0.00	0.00
30	Oil and Gas Production (combustion)	24.19	51.17	50.84	0.01	0.14	0.09	0.00	0.03	0.00
40	Petroleum Refining (Combustion)	0.00	453.57	441.44	0.02	1.13	12.78	0.00	12.46	0.00
50	Manufacturing and Industrial	111.98	947.71	945.20	0.04	0.75	1.54	0.00	1.29	0.00
52	Food and Agricultural Processing	2.86	42.01	41.83	0.00	0.02	0.18	0.00	0.18	0.01
60	Service and Commercial	223.50	1049.04	1046.51	0.08	1.31	0.82	0.00	0.50	0.00
99	Other (Fuel Combustion)	73.02	84.23	60.78	0.02	0.19	2.46	18.06	0.04	0.18
	Total	443.60	3313.74	3270.63	0.20	3.60	18.38	22.11	14.50	0.24
Waste Disposal										
110	Sewage Treatment	0.00	7.73	7.73	0.00	0.05	0.00	0.00	0.00	0.00
120	Landfills	0.00	130.10	130.10	0.00	0.00	0.00	0.00	0.00	0.00
130	Incineration	0.00	32.81	32.80	0.00	0.01	13.46	0.00	0.00	13.46
140	Soil Remediation	0.00	3.29	3.04	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	0.00	5.20	0.34	0.00	0.63	0.07	49.38	0.00	213.67
	Total	0.00	179.12	174.01	0.00	0.69	13.53	49.38	0.00	227.13
Cleaning and Surface Coatings										
210	Laundrying	0.00	0.43	0.29	0.00	0.00	0.00	1.21	0.00	0.00
220	Degreasing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	0.00	1744.98	1614.22	0.00	0.00	0.00	0.00	0.00	0.00
240	Printing	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
250	Adhesives and Sealants	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.00	11.65	10.78	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	1757.06	1625.29	0.00	0.00	0.00	1.21	0.00	0.00
Petroleum Production and Marketing										
310	Oil and Gas Production	0.00	7.10	7.10	0.00	0.00	0.00	0.00	0.00	0.00
320	Petroleum Refining	0.00	235.08	240.79	0.00	2.32	2.32	0.00	0.00	456.10
330	Petroleum Marketing	0.00	0.23	0.21	0.00	0.00	0.00	0.00	0.00	0.00
399	Other (Petroleum Production and Marketing)	0.00	0.52	0.48	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	242.93	248.58	0.00	2.32	2.32	0.00	0.00	456.10

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	DPM2.5	Elemental carbon (EC)	EC2.5	Hexavalent chromium	Lead	Nickel	Organic carbon	Selenium	Silicon
Industrial Processes										
410	Chemical	0.00	11.66	8.60	0.01	0.09	0.47	25.16	0.00	24.81
420	Food and Agriculture	0.00	108.84	1.08	0.00	0.00	0.04	0.00	0.00	72.65
430	Mineral Processes	0.00	317.04	169.52	0.10	12.01	12.28	20.52	3.39	5425.22
440	Metal Processes	0.00	77.69	47.05	0.07	10.14	2.06	15.79	0.01	0.56
450	Wood and Paper	0.00	16.37	5.37	0.00	0.02	0.03	41.48	0.00	0.30
460	Glass and Related Products	0.00	18.24	18.48	0.04	0.88	0.08	0.00	6.08	0.00
470	Electronics	0.00	0.30	0.10	0.00	0.09	0.01	1.22	0.00	0.79
499	Other (Industrial Processes)	0.00	77.82	57.87	0.00	1.19	0.09	38.44	0.01	28.24
	Total	0.00	627.96	308.07	0.23	24.42	15.04	142.62	9.48	5552.57
Solvent Evaporation										
510	Consumer Products	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solvent	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing	0.00	21.10	19.51	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	21.10	19.51	0.00	0.00	0.00	0.00	0.00	0.00
Miscellaneous Processes										
610	Residential Fuel Combustion	0.00	2755.99	2022.78	0.00	0.22	2.83	8712.53	1.93	8.97
620	Farming Operations	0.00	23.88	6.13	0.00	0.15	0.13	511.02	0.01	442.49
630	Construction and Demolition	0.00	321.13	21.02	0.00	38.68	4.10	3052.59	0.14	13209.84
640	Paved Road Dust	0.00	1582.39	109.19	0.00	25.42	2.46	12248.67	0.41	62260.91
645	Unpaved Road Dust	0.00	22.96	1.35	0.00	2.56	0.73	664.29	0.06	6406.25
650	Fugitive Windblown Dust	0.00	24.27	1.40	0.00	2.49	0.40	207.54	0.01	1417.80
660	Fires	0.00	219.29	193.06	0.00	0.05	0.00	215.66	0.00	37.27
670	Waste Burning and Disposal	0.00	2222.73	1847.17	0.00	0.46	0.00	5821.75	0.03	14.32
690	Cooking	0.00	1079.86	1079.86	0.00	2.90	0.67	13750.72	0.00	53.43
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	0.00	8252.50	5281.97	0.00	72.94	11.33	45184.79	2.60	83851.27

Table VIII-1. 2012 Emissions (lbs/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	DPM2.5	Elemental carbon (EC)	EC2.5	Hexavalent chromium	Lead	Nickel	Organic carbon	Selenium	Silicon
Onroad Motor Vehicles										
710	Light Duty Passenger Auto (LDA)	73.27	1573.00	710.97	1.01	2.31	11.48	4137.66	0.40	1154.01
722	Light Duty Trucks 1 (T1)	3.71	236.08	129.29	0.12	0.41	1.43	585.39	0.05	141.83
723	Light Duty Trucks 2 (T2)	3.76	540.74	241.64	0.35	0.81	3.99	1422.99	0.14	401.12
724	Medium Duty Trucks (T3)	5.61	432.40	193.95	0.28	0.64	3.18	1136.59	0.11	319.22
732	Light Heavy Duty Gas Trucks 1 (T4)	0.00	88.20	37.11	0.06	0.12	0.68	234.40	0.02	68.25
733	Light Heavy Duty Gas Trucks 2 (T5)	0.00	8.89	3.54	0.01	0.01	0.07	23.87	0.00	7.12
734	Medium Heavy Duty Gas Trucks (T6)	0.00	8.52	3.67	0.01	0.01	0.06	21.62	0.00	5.81
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.00	0.87	0.29	0.00	0.00	0.01	2.69	0.00	1.11
742	Light Heavy Duty Diesel Trucks 1 (T4)	276.71	114.70	85.25	0.04	0.06	0.42	318.53	0.02	43.24
743	Light Heavy Duty Diesel Trucks 2 (T5)	99.47	41.78	30.90	0.02	0.02	0.17	116.96	0.01	17.26
744	Medium Heavy Duty Diesel Truck (T6)	2000.08	1256.45	1125.29	0.08	0.08	0.82	722.83	0.03	83.08
746	Heavy Heavy Duty Diesel Trucks (HHD)	6550.40	4077.28	3648.16	0.09	0.17	0.88	2206.05	0.04	84.16
750	Motorcycles (MCY)	0.00	11.09	3.97	0.01	0.01	0.09	30.32	0.00	9.30
760	Diesel Urban Buses (UB)	432.40	161.10	130.76	0.09	0.09	0.96	482.77	0.03	99.19
762	Gas Urban Buses (UB)	0.00	1.33	0.71	0.00	0.00	0.01	3.61	0.00	1.17
771	Gas School Buses (SB)	0.00	0.05	0.02	0.00	0.00	0.00	0.22	0.00	0.14
772	Diesel School Buses (SB)	135.04	92.60	83.71	0.02	0.02	0.19	68.25	0.01	20.03
777	Gas Other Buses (OB)	0.00	1.57	0.51	0.00	0.00	0.02	4.72	0.00	1.81
779	Diesel Other Buses (OB)	321.44	207.59	194.21	0.01	0.01	0.08	103.31	0.01	9.14
780	Motor Homes (MH)	47.84	19.15	14.78	0.01	0.01	0.06	52.42	0.00	6.04
	Total	9949.72	8873.40	6638.74	2.18	4.80	24.61	11675.20	0.87	2473.02
Other Mobile Sources										
810	Aircraft	0.00	312.32	163.70	0.29	0.71	1.08	800.43	0.00	13.69
820	Trains	1128.20	315.35	298.25	0.00	0.04	0.02	842.68	0.01	3.52
833	Ocean Going Vessels	990.23	63.65	60.40	0.00	0.00	0.00	571.81	0.00	0.00
835	Commercial Harbor Crafts	480.19	332.47	307.38	0.00	0.00	0.00	118.99	0.00	1.17
840	Recreational Boats	28.56	574.89	527.19	0.08	4.19	4.18	2155.07	0.00	56.87
850	Off-Road Recreational Vehicles	0.00	8.73	5.93	0.00	0.07	0.07	33.80	0.00	0.89
860	Off-Road Equipment	5275.28	4203.95	3865.38	0.09	3.71	3.81	3190.02	0.05	62.55
870	Farm Equipment	570.72	400.09	367.79	0.00	0.03	0.03	152.77	0.00	1.68
890	Fuel Storage and Handling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	Total	8473.19	6211.46	5596.02	0.47	8.74	9.18	7865.58	0.06	140.38
Total	Stationary	443.60	14394.40	10928.05	0.43	103.98	60.61	45400.11	26.59	90087.31
Total	On-Road Vehicles	9949.72	8873.40	6638.74	2.18	4.80	24.61	11675.20	0.87	2473.02
Total	Other Mobile	8473.19	6211.46	5596.02	0.47	8.74	9.18	7865.58	0.06	140.38
Total	Anthropogenic	18866.52	29479.26	23162.82	3.09	117.52	94.39	64940.89	27.52	92700.72

Table VIII-2. 2012 Criteria Emissions (tons/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5
Fuel Combustion									
10	Electric Utilities	4.90	0.90	8.77	0.20	0.28	0.96	0.95	0.95
20	Cogeneration	0.33	0.04	0.31	0.01	0.01	0.05	0.04	0.04
30	Oil and Gas Production (combustion)	0.88	0.10	0.54	0.61	0.01	0.10	0.10	0.10
40	Petroleum Refining (Combustion)	4.42	1.28	5.06	0.00	0.00	1.62	1.56	1.54
50	Manufacturing and Industrial	25.60	5.59	17.11	13.53	0.45	1.24	1.23	1.22
52	Food and Agricultural Processing	0.18	0.05	0.99	0.12	0.00	0.06	0.06	0.06
60	Service and Commercial	14.23	4.41	16.40	10.14	0.87	1.36	1.35	1.35
99	Other (Fuel Combustion)	1.54	0.34	3.02	3.78	0.22	0.36	0.28	0.20
	Total	52.08	12.71	52.20	28.39	1.85	5.73	5.58	5.46
Waste Disposal									
110	Sewage Treatment	0.09	0.05	0.01	0.01	0.00	0.01	0.01	0.01
120	Landfills	595.86	8.44	0.48	0.49	0.30	0.13	0.13	0.13
130	Incineration	0.39	0.07	0.36	0.90	0.07	0.17	0.07	0.06
140	Soil Remediation	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
199	Other (Waste Disposal)	4.23	3.50	0.01	0.00	0.03	0.56	0.27	0.03
	Total	600.58	12.06	0.87	1.40	0.41	0.87	0.49	0.23
Cleaning and Surface Coatings									
210	Laundering	1.25	0.13	0.00	0.00	0.00	0.00	0.00	0.00
220	Degreasing	50.36	9.73	0.00	0.00	0.00	0.00	0.00	0.00
230	Coatings and Related Processes	20.68	19.78	0.01	0.01	0.00	1.59	1.52	1.47
240	Printing	1.73	1.73	0.00	0.00	0.00	0.00	0.00	0.00
250	Adhesives and Sealants	4.02	3.50	0.00	0.00	0.00	0.00	0.00	0.00
299	Other (Cleaning and Surface Coatings)	0.52	0.52	0.04	0.04	0.00	0.01	0.01	0.01
	Total	78.57	35.39	0.04	0.04	0.00	1.60	1.54	1.48
Petroleum Production and Marketing									
310	Oil and Gas Production	2.38	1.35	0.06	0.08	0.00	0.01	0.01	0.01
320	Petroleum Refining	6.14	4.11	4.98	0.19	0.56	2.84	1.82	1.58
330	Petroleum Marketing	117.92	34.67	0.00	0.01	0.01	0.00	0.00	0.00
399	Other (Petroleum Production and Marke	0.02	0.02	0.00	0.00	0.00	0.00	0.00	0.00
	Total	126.46	40.13	5.05	0.28	0.57	2.85	1.83	1.59

Table VIII-2. 2012 Criteria Emissions (tons/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5
Industrial Processes									
410	Chemical	7.67	6.24	0.16	0.00	0.00	0.65	0.50	0.42
420	Food and Agriculture	1.44	1.42	0.00	0.00	0.00	0.44	0.22	0.10
430	Mineral Processes	0.44	0.39	0.83	0.03	0.01	8.41	5.54	3.03
440	Metal Processes	0.15	0.12	0.19	0.03	0.01	0.54	0.37	0.24
450	Wood and Paper	0.13	0.13	0.00	0.00	0.00	5.56	3.88	2.34
460	Glass and Related Products	0.01	0.01	0.00	0.00	0.00	0.11	0.10	0.09
470	Electronics	0.00	0.00	0.00	0.00	0.00	0.02	0.01	0.01
499	Other (Industrial Processes)	6.27	5.63	0.23	0.03	0.00	1.22	0.84	0.52
	Total	16.12	13.94	1.42	0.08	0.03	16.94	11.46	6.74
Solvent Evaporation									
510	Consumer Products	103.58	84.43	0.00	0.00	0.00	0.00	0.00	0.00
520	Architectural Coatings and Related Solv	20.34	18.83	0.00	0.00	0.00	0.00	0.00	0.00
530	Pesticides/Fertilizers	1.02	1.02	0.00	0.00	0.00	0.00	0.00	0.00
540	Asphalt Paving/Roofing	0.78	0.71	0.00	0.00	0.00	0.02	0.02	0.02
	Total	125.72	104.99	0.00	0.00	0.00	0.02	0.02	0.02
Miscellaneous Processes									
610	Residential Fuel Combustion	19.78	8.63	48.54	20.20	0.49	7.77	7.39	7.19
620	Farming Operations	33.57	2.69	0.00	0.00	0.00	2.36	1.21	0.31
630	Construction and Demolition	0.00	0.00	0.00	0.00	0.00	34.72	16.98	1.70
640	Paved Road Dust	0.00	0.00	0.00	0.00	0.00	102.51	46.85	7.07
645	Unpaved Road Dust	0.00	0.00	0.00	0.00	0.00	9.86	5.86	0.58
650	Fugitive Windblown Dust	0.00	0.00	0.00	0.00	0.00	3.70	1.85	0.26
660	Fires	0.34	0.24	3.02	0.08	0.00	0.45	0.44	0.41
670	Waste Burning and Disposal	5.66	3.23	50.64	1.52	0.47	5.37	5.16	4.60
690	Cooking	2.48	1.73	0.00	0.00	0.00	10.39	10.39	10.39
699	Other (Miscellaneous Processes)	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	NOX/SOX RECLAIM				26.51	11.78			
	Total	61.83	16.52	102.20	48.31	12.74	177.13	96.14	32.53

Table VIII-2. 2012 Criteria Emissions (tons/day) by Major Source Category for the South Coast Air Basin.

Code	Source Category	TOG	VOC	CO	NOx	SOx	TSP	PM10	PM2.5
Onroad Motor Vehicles									
710	Light Duty Passenger Auto (LDA)	58.49	53.92	528.58	41.78	0.81	10.73	10.53	4.61
722	Light Duty Trucks 1 (T1)	16.11	14.88	141.71	11.13	0.11	1.38	1.35	0.64
723	Light Duty Trucks 2 (T2)	23.29	21.43	240.28	26.88	0.39	3.72	3.65	1.59
724	Medium Duty Trucks (T3)	21.75	19.78	241.75	28.70	0.39	2.96	2.91	1.27
732	Light Heavy Duty Gas Trucks 1 (T4)	7.92	7.23	71.08	16.41	0.09	0.63	0.62	0.26
733	Light Heavy Duty Gas Trucks 2 (T5)	0.86	0.79	7.75	1.69	0.01	0.07	0.06	0.03
734	Medium Heavy Duty Gas Trucks (T6)	1.78	1.63	21.15	3.17	0.01	0.05	0.05	0.02
736	Heavy Heavy Duty Gas Trucks ((HHD)	0.33	0.29	9.40	1.11	0.00	0.01	0.01	0.00
742	Light Heavy Duty Diesel Trucks 1 (T4)	0.69	0.58	3.34	19.77	0.02	0.51	0.50	0.28
743	Light Heavy Duty Diesel Trucks 2 (T5)	0.23	0.19	1.14	6.47	0.01	0.20	0.19	0.11
744	Medium Heavy Duty Diesel Truck (T6)	1.53	1.28	5.07	29.95	0.05	1.73	1.71	1.26
746	Heavy Heavy Duty Diesel Trucks (HHD)	5.59	4.68	23.36	92.14	0.15	4.39	4.38	3.57
750	Motorcycles (MCY)	8.51	7.30	66.36	2.23	0.00	0.08	0.08	0.03
760	Diesel Urban Buses (UB)	0.63	0.53	2.55	14.21	0.02	0.96	0.95	0.52
762	Gas Urban Buses (UB)	0.41	0.33	4.20	0.73	0.00	0.01	0.01	0.00
771	Gas School Buses (SB)	0.12	0.10	1.82	0.14	0.00	0.00	0.00	0.00
772	Diesel School Buses (SB)	0.14	0.12	0.41	2.33	0.00	0.22	0.21	0.13
777	Gas Other Buses (OB)	0.46	0.43	5.73	0.98	0.00	0.02	0.01	0.01
779	Diesel Other Buses (OB)	0.25	0.21	0.94	4.79	0.01	0.23	0.23	0.19
780	Motor Homes (MH)	0.29	0.24	7.72	1.78	0.01	0.08	0.08	0.04
Total		149.38	135.93	1384.33	306.42	2.06	27.97	27.55	14.58
Other Mobile Sources									
810	Aircraft	3.38	3.30	35.87	13.53	1.44	0.86	0.81	0.40
820	Trains	2.07	1.74	6.05	20.21	0.02	0.61	0.61	0.56
833	Ocean Going Vessels	0.94	0.83	1.49	14.71	2.98	0.52	0.52	0.50
835	Commercial Harbor Crafts	0.56	0.47	2.27	6.04	0.00	0.26	0.26	0.24
840	Recreational Boats	33.52	31.68	102.78	5.97	0.00	1.99	1.91	1.82
850	Off-Road Recreational Vehicles	6.91	6.63	7.79	0.11	0.01	0.03	0.03	0.02
860	Off-Road Equipment	57.66	52.80	592.14	70.52	0.08	4.71	4.64	4.33
870	Farm Equipment	1.23	1.06	6.76	5.36	0.01	0.32	0.32	0.29
890	Fuel Storage and Handling	7.53	7.50	0.00	0.00	0.00	0.00	0.00	0.00
Total		113.79	106.01	755.17	136.45	4.53	9.30	9.10	8.17
Total	Stationary	1061.36	235.74	161.78	78.51	15.60	205.14	117.05	48.05
Total	On-Road Vehicles	149.38	135.93	1384.33	306.42	2.06	27.97	27.55	14.58
Total	Other Mobile	113.79	106.01	755.17	136.45	4.53	9.30	9.10	8.17
Total	Anthropogenic	1324.54	477.69	2301.27	521.38	22.19	242.42	153.70	70.80

APPENDIX IX

MATES IV

DRAFT FINAL REPORT

Regional Modeling Analyses

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IX.1 Introduction

The MATES IV regional modeling analysis is presented in Chapter 4 of the main document. This appendix provides the analyses to complement and support the regional modeling demonstration. These include: characterization and validation of the meteorological input data, development of the MATES IV modeling emissions inventory, discussion of the development of the boundary conditions, model performance, and risk.

The Comprehensive Air Quality Model with Extensions enhanced with a reactive tracer modeling capability (CAMx RTRAC, Environ, 2006) provided the dispersion modeling platform and chemistry used to simulate annual impacts of both gaseous and aerosol toxic compounds in the Basin. The version of the RTRAC “probing tool” in CAMx used in the modeling simulations includes an air toxics chemistry module to treat the formation and destruction of reactive air toxic compounds.

Numerical modeling was conducted on a domain that encompassed the Basin and the coastal shipping lanes located in the Southern California Bight portions of the Basin using 2 km by 2 km computational grids. The domain was extended by 80 km to the east to include Coachella Valley and 10 km to the south to include the entire Orange County beyond the MATES III domain. An updated version of the 2012 AQMP emissions inventory for model year 2008, which included detailed source profiles of air toxic sources, provided mobile and stationary source input for the MATES III CAMx RTRAC simulations. Back-casting to the previous MATES modeling inventories was not performed due to the complications involved in the map projections and speciation profiles used in the inventory.

Grid-based, hourly meteorological fields were generated from the Weather Research Forecast (WRF) mesoscale model (Skamarock, 2008). The National Weather Service (NWS) North American Model (NAM) analysis field was employed as initial and lateral boundary values for the WRF modeling. Four dimensional data assimilation was performed using the NAM output enhanced with available upper and surface measurements. WRF was simulated for the period of July 1, 2012, to June 20, 2013, which provided the dispersion platform for the chemical transport modeling using CAMx.

IX.2 Background

MATES IV regional modeling analyses relied on the CAMx RTRAC model to simulate annual impacts of both gaseous and aerosol toxic compounds in the Basin. The 2000 MATES II analysis used the Urban Airshed Model with TOX (UAMTOX) chemistry to simulate the advection and accumulation of toxic compound emissions throughout the Basin. UAMTOX was simulated for 2 km by 2 km grid domain that overlaid the Basin. The analysis relied on the 1997-1998 emissions projection from the 1997 AQMP and meteorological data fields for 1997-1998 generated from objective analysis using a diagnostic wind model. These tools were consistent with those used in both the 1997 and 2003 AQMP attainment demonstrations.

For MATES III, the regional modeling dispersion platform and chemistry simulations progressed from the UAMTOX model to CAMx RTRAC. The second major change in the MATES III modeling analysis was the incorporation of the Mesoscale Meteorological Model 5 (MM5, Grell, 1994) to drive the meteorological data simulation. At that time, MM5 was the state-of-the-art meteorological model used in numerous regional modeling analyses, worldwide. The transition to CAMx and MM5 was made based on suggestions from peer review for the 2003 AQMP modeling efforts.

During MATES III, MM5 was simulated for two periods to provide the dispersion profile for the CAMx simulations: April 1998 through March 1999 and all days in 2005. As for emissions, an updated version of the 2007 AQMP inventory for model year 2005 was used. This included detailed source profiles of air toxics and mobile and stationary sources for CAMx RTRAC simulations. An additional back-cast of the 2007 AQMP emissions inventory was generated for 1998 to re-simulate MATES II in a framework identical to the MATES III, which enabled a direct comparison of risk assessments of the two previous MATES studies.

The CAMx-MM5 modeling platform from MATES III was updated to the CAMx-WRF coupled system in MATES IV. The WRF, state-of-the-science meteorological modeling tool offers a variety of user options to cover atmospheric boundary layer parameterizations, turbulent diffusion, cumulus parameterizations, land surface-atmosphere interactions, which can be customized to specific geographical and climatological situations. SCAQMD performed extensive sensitivity tests and developments to improve the WRF performance for the South Coast Basin, of which geographical and climatological characteristics impose great challenges in predicting complex meteorological structures associated with air quality episodes. For MATES IV, CAMx with RTRAC algorithms continued to serve as the chemical transport platform, given the importance of tracking chemically active toxic elements individually to assess the contribution of each source category. The RTRAC algorithm provides a flexible approach for tracking the emission, dispersion, chemistry, and deposition of multiple gas- and particle-phase species that are not otherwise included in the model's chemistry mechanisms.

IX.3 CAMx Modeling Domain

Modeling was conducted on a domain that encompassed the South Coast Air Basin and the coastal shipping lanes located in the Southern California Bight portions of the Basin using a 2 km by 2 km grid. Figure IX-1 depicts the MATES IV modeling domain, which was extended by 80 km in the east and 10 km to the south beyond the MATES III domain, which was presented as the shaded area in the figure. The discrepancy of the two domains, other than the size, results from the map projection used in the grid configuration. MATES III employed a UTM coordinate map projection, an orthogonal grid system. MATES IV used a Lambert conformal map projection (reference point was located at 120° 30' W and 37° N) which complements the meteorological simulations and more accurately represents the geographical setting. Offsets in the orientation of the domain and the shape of the computational grid make it impossible to compare the two modeling results directly on an individual grid level, but meaningful comparisons can be made when averaging results over an extended area, such as a countywide or Basin total. The total integrated risks for each county and the South Coast Basin total were presented in Chapter 4 and the modeling results section later in this Appendix. Concentrations

simulated for a specific location in the domain consisted of a nine-cell distance weighted average.

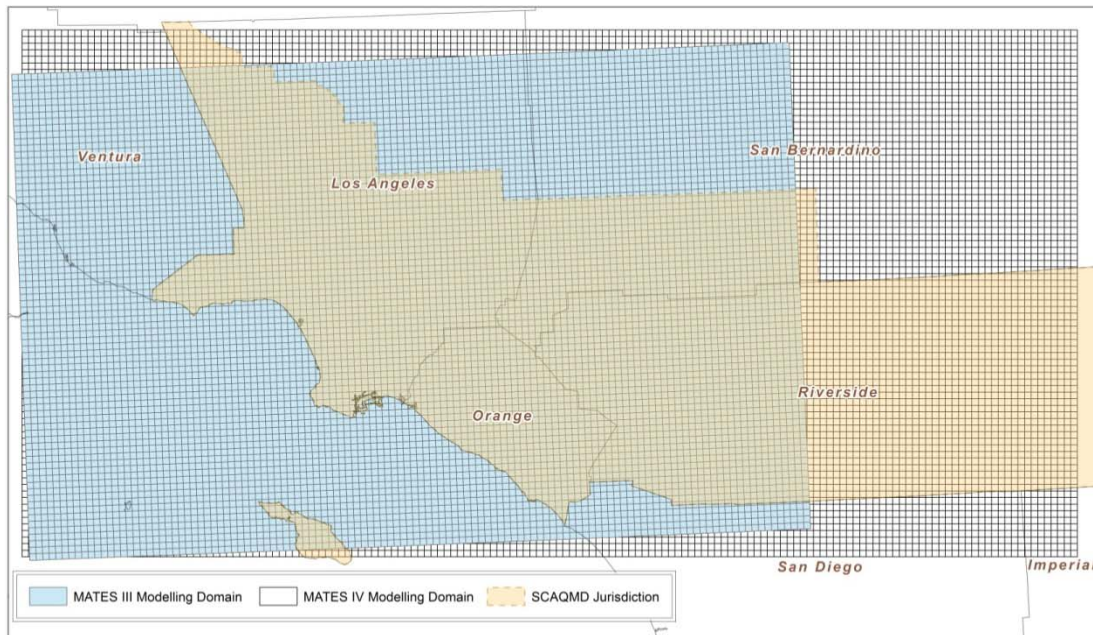


Figure IX-1

MATES IV Modeling Domain. Shaded area represents the MATES III modeling domain.

IX.4 Meteorological Summary for MATES IV Period

Most of the rainfall in Southern California occurs between late fall and early spring, with most rain typically in the months of January and February. Overall, the MATES IV time period from July 2012 through June 2013 had recorded precipitation well below normal (38% of normal), consistent with the developing drought conditions in Southern California. The total rainfall measured at the National Weather Service Downtown Los Angeles station, on the University of Southern California (USC) campus, measured a total of 5.67 inches of rain during the one-year MATES IV period, 38% of the 30-year normal value of 14.93 inches. The monthly precipitation and average temperatures are shown in Table 1. While the typically wet months of November and December 2012 had close to normal rainfall, the other typically wet months of October 2012 and January through April of 2013 all had very low rain amounts. For the calendar year of 2013, only 3.60 inches of precipitation were measured at Downtown Los Angeles, making it the driest calendar year measured in the downtown areas since records began in 1877. The drought-impacted low-rainfall conditions at Downtown Los Angeles were generally consistent with stations throughout southwestern California.

Table IX-1
 Monthly Precipitation and Average Temperatures
 at Downtown Los Angeles between July 2012 and June 2013

Month	Precipitation			Average Temperature		
	Measured (in.)	30-Year Normal (in.)	Percent of Normal	Measured (°F)	30-Year Normal (°F)	Percent of Normal
Jul-12	0.01	0.01	100	70.5	73.3	96.2
Aug-12	0.00	0.04	0	76.6	74.3	103.1
Sep-12	Trace	0.24	0	76.3	73.1	104.4
Oct-12	0.02	0.66	3	71.2	68.6	103.8
Nov-12	1.03	1.04	99	63.3	62.4	101.4
Dec-12	2.16	2.33	93	56.7	57.6	98.4
Jan-13	1.18	3.12	38	59.1	58.0	101.9
Feb-13	0.02	3.80	1	57.6	58.9	97.8
Mar-13	0.54	2.43	22	58.3	60.6	96.2
Apr-13	Trace	0.91	0	62.6	63.1	99.2
May-13	0.71	0.26	273	65.5	65.8	99.5
Jun-13	0.00	0.09	0	68.0	69.2	98.3
MATES-IV Period	5.67	14.93	38	65.5	65.4	100.1

The annual averaged temperature at Downtown Los Angeles for the entire MATES IV period was 0.1 degree F above the 30-year normal annual average temperature of 65.4. The months of August through November of 2012 were warmer than normal, along with January 2013. The months of July 2012, December 2012, and February through June of 2013 temperatures were slightly below normal.

Some notable weather events occurred in Southern California during the MATES IV period. A period of excessive heat occurred in the Inland Empire between August 5 through August 20, 2012, with temperatures between 96 and 110 degrees F. The southwestern monsoon was active between about July 21 and September 21, 2012, causing convection and thunderstorms in the desert and mountain areas, occasionally spilling into the South Coast Air Basin. Thunderstorms that occurred over the San Bernardino Mountains and the High Desert on August 9, 11, and 17 of 2012 led to some strong downburst winds and flooding. Thunderstorms that developed over Southern California on August 30, 2012, caused flash flooding in Moreno Valley and Redlands, as well as in the Coachella Valley. Between September 9 and 11, 2012, severe thunderstorms and flash flooding occurred in the desert and mountain areas, the Coachella Valley, and in vicinity of Temecula and Lake Elsinore.

Synoptic conditions were evaluated using 850 hPa temperature and dew point temperature measured via a rawinsonde launched at Miramar Marine Corps Air Station, the closest World Meteorological Organization's weather sounding station to the Basin. Average temperature and dew point temperature during the MATES IV period were 14.9 C and -4.6 C, respectively at 850

hPa height. These values are very close to those measured during the MATES III period: 14.1 C and -4.7 C. The difference in the ambient and dew point temperature confirms that the MATES IV period was drier than the MATES III period, confirming that drought conditions affected all of Southern California. Note that an ambient temperature close to dew point indicates that the atmosphere is near saturation. In other words, the closer the two temperatures are, the wetter the atmosphere is. When air is fully saturated, the relative humidity is 100 % and the ambient and dew point temperatures become identical.

IX.5 WRF Numerical Model Configuration

The WRF mesoscale model developed by National Center for Atmospheric Research (NCAR) was employed to produce meteorological fields for CAMx RTRAC simulations. The WRF simulations were comprised of four nested domains with horizontal grid distances of 36, 12, 4, and 2 km respectively. The first three domains were configured in a two-way nested approach, and the innermost domain was developed as one-way nesting from the 4 km domain. The relative sizes and locations of each domain are given in Figure IX-2. The innermost domain spans 334 km X 174 km in east-west and north-south directions, respectively, which overlaps the CAMx domain by three additional rows and columns in each lateral boundary. The initial guess field and lateral boundary values for the outermost domain were extracted from the operational National Center for Environmental Prediction North American Model (40 km grid resolution) grid analysis. The databases contain variables of air temperature, geopotential height, heat flux, humidity, precipitable water, sea level pressure, shortwave radiation, snow water equivalent, surface air temperature, surface winds, thermal infrared, upper level winds, vertical wind, and vorticity at each isobaric level of 1000, 975, 950, 925, 900, 875, 850, 800, 750, 700, 650, 600, 550, 500, 450, 400, 350, 300, 275, 250, 225, 200, 175, 150, 100, 50 hPa. (Refer to <http://dss.ucar.edu/datasets/ds609.2> for further dataset information).

Four dimensional data assimilation (FDDA) was conducted by utilizing the National Weather Service (NWS) twice-daily sounding data and hourly surface measurements. Each simulation was conducted for a four-day period with the first 24 hours used as a spin up period. The detailed configuration and physical options used in the WRF simulation are listed in Table IX-2.

WPS Domain Configuration

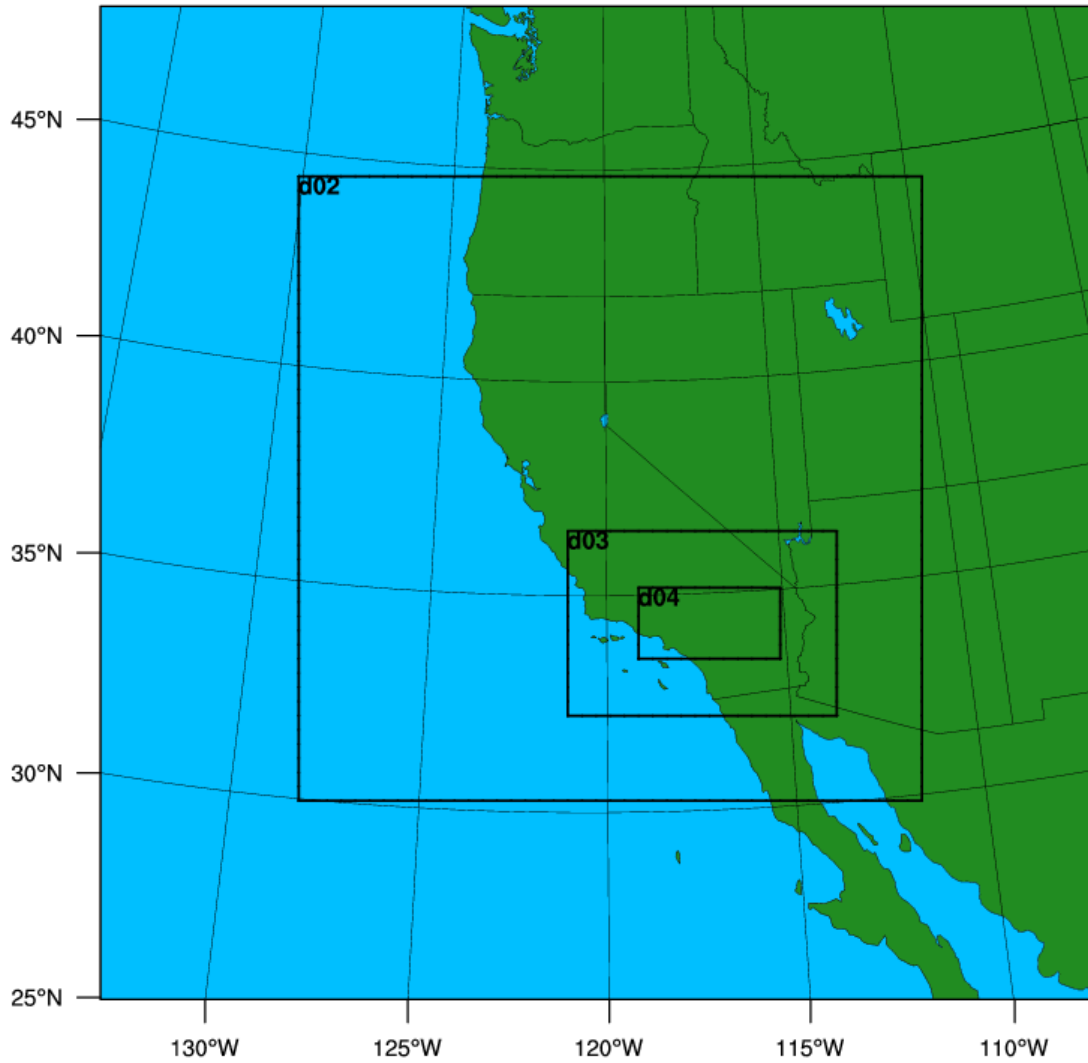


Figure IX-2.
The relative locations and sizes of the four WRF nested domains.

Table IX-2
WRF configuration and its comparison to MM5 used in the MATES III

Component	MATES IV (July 2012-June 2013)	MATES III (2005)
Numerical Platform	WRF version 3.4.1	MM5 version 3.7
Number of grids	(167 X 87) in east-west and north-south respectively	(127 X 82) in east-west and north-south respectively
Number of vertical layers	30 layers with the lowest layer being approximately at 20 m agl.	29 layers with the lowest layer being approximately at 20 m agl.
Initial and boundary values	NCEP NAM analysis field (40 km grid distance)	NCEP ETA 218 grid analysis field (12 km grid distance)
Boundary layer scheme	YSU	Blackadar
Soil model	Five-layer soil model	Five-layer soil model
Cumulus parameterization	Explicit	Explicit
Micro physics	Simple ice	Simple ice
Radiation	Cloud radiation	Cloud radiation
Four dimensional data analysis	Analysis nudging with NWS surface and upper air measurements	Analysis nudging with NWS surface and upper air measurements

IX.6 Meteorological Model Performance

The WRF performance was extensively evaluated using NWS surface measurements and Environ's METSTAT (ENVIRON, 2001) statistical software to compute mean, bias, gross error, root mean square error (RMSE), and index of agreement.

Figure IX-4 shows the time series of hourly observed and predicted temperature at 2 m above ground level (agl) for October 2012. The model successfully resolved overall cooling and warming trend induced by synoptic scale motions, while both daily minimum temperatures in the beginning of the month and daily maximum in the end of the month were slightly under-predicted. This can be partly attributed to inaccurate representation of surface characteristics such as soil moisture content and land use category.

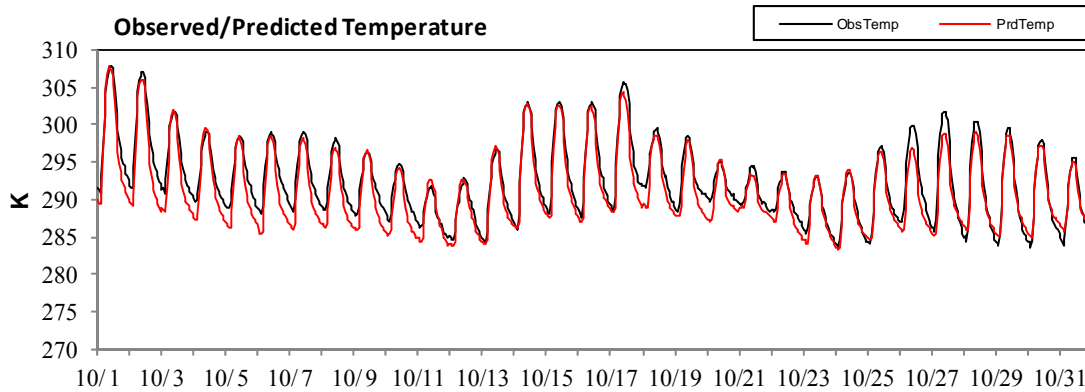


Figure IX-3

Time series of observed and predicted temperature at 2 m above ground level for October 2012. The data are hourly average observations of all available measurements within the domain and the corresponding predictions.

In all, the model has less than 4 degrees of bias and gross error and approximately 4 degrees of RMSE, which are approximately equivalent to WRF performance for 2012 Air Quality Management Plan (AQMP) modeling case. Wind speed turned out to be underpredicted by less than 1.7 m s^{-1} . In general, all conventional surface parameters including wind speed, direction, temperature and water vapor mixing ratio showed good agreement with the observations (Figures IX-4 through IX-6).

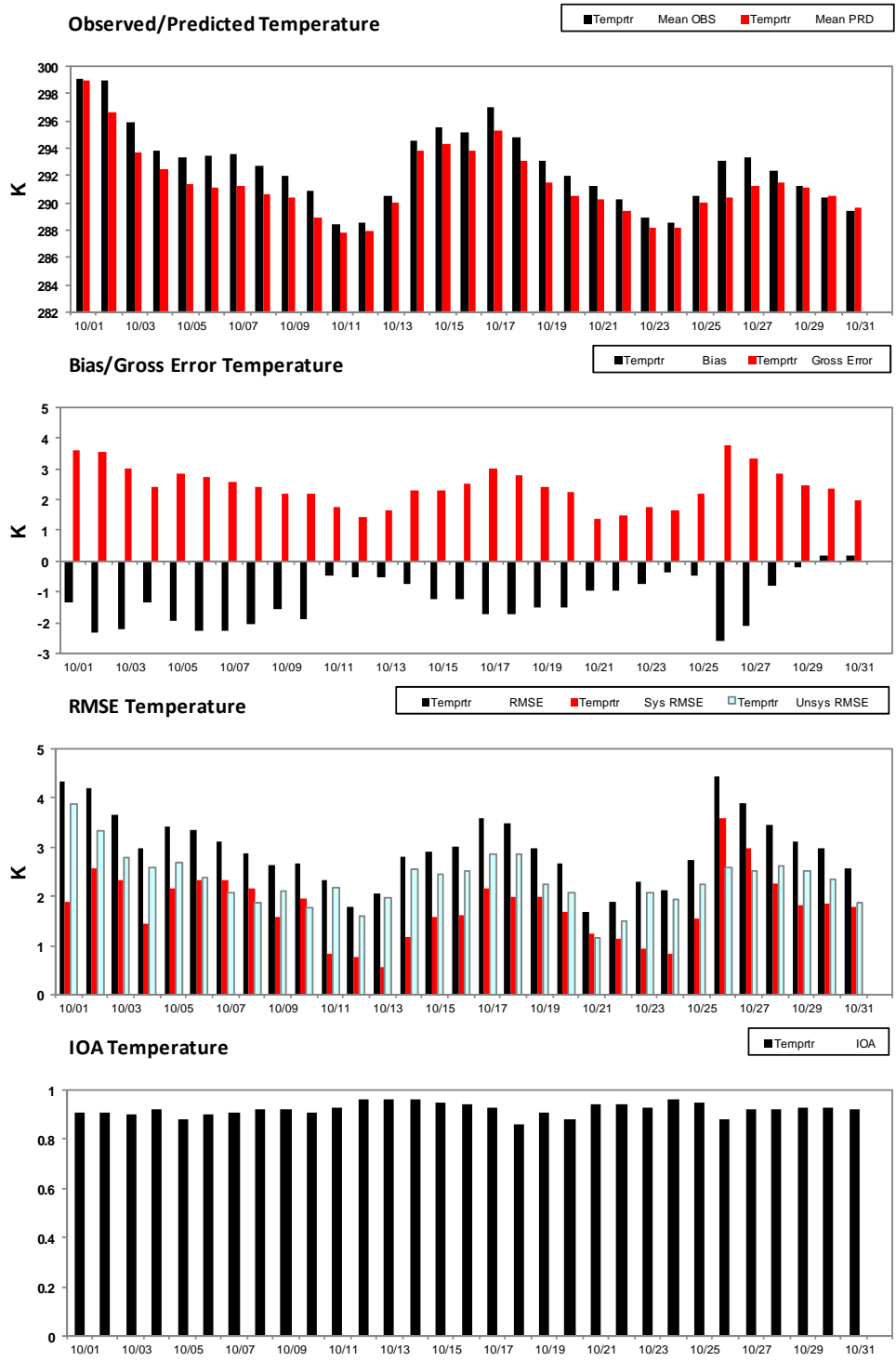


Figure IX-4

Daily averaged (a) mean, (b) bias and gross error, (c) root mean square error, and (d) index of agreement for observed and predicted temperature at 2 m agl.

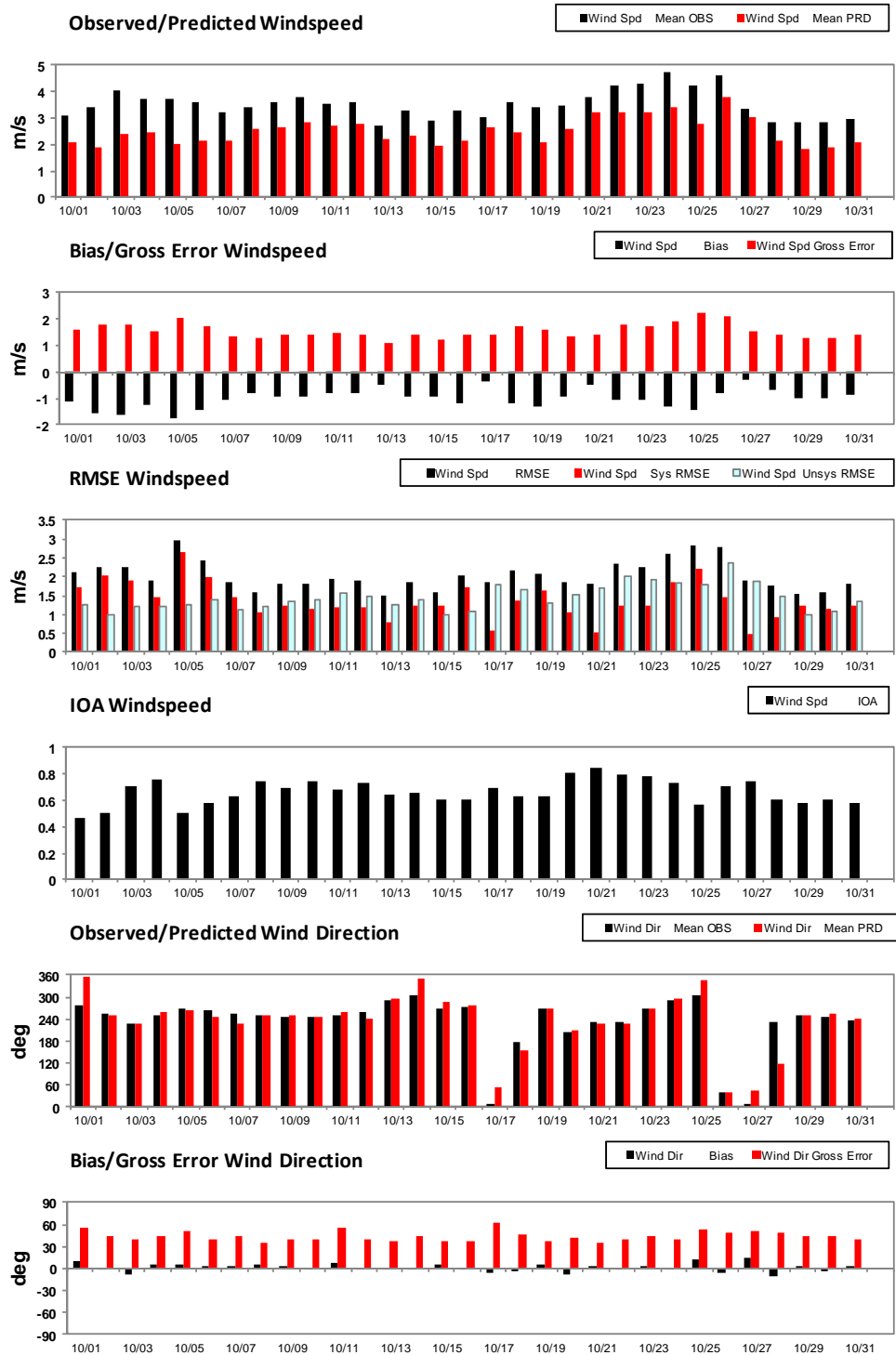


Figure IX-5

Daily averaged (a) mean, (b) bias and gross error, (c) root mean square error, and (d) index of agreement for observed and predicted wind speed. (e) Mean and (f) bias and gross error of wind direction are presented as well.

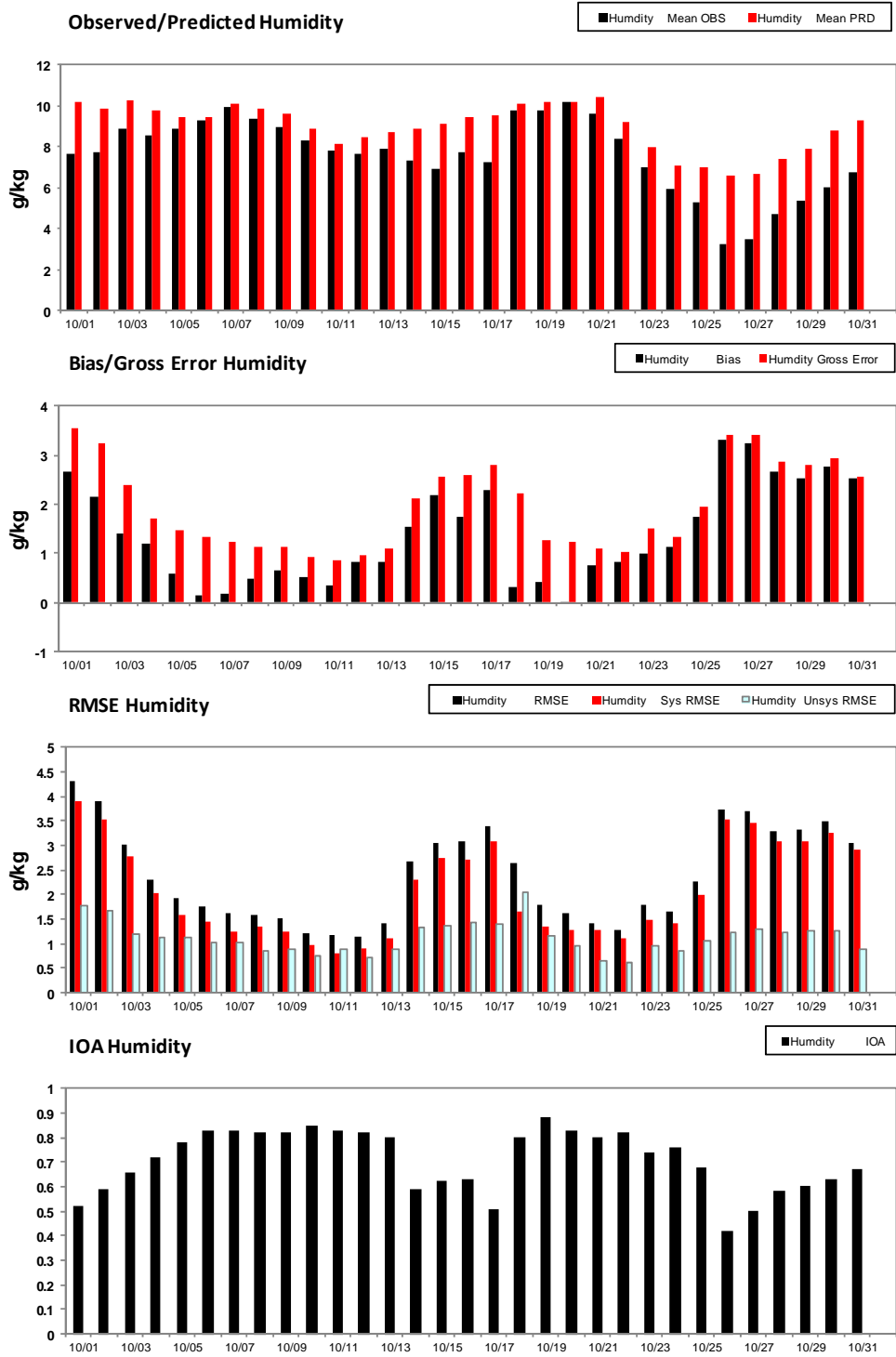


Figure IX-6

Daily averaged (a) mean, (b) bias and gross error, (c) root mean square error, and (d) index of agreement for observed and predicted humidity at 2 m agl.

IX.7 Wind Rose Comparison

While the METSTAT evaluation is a useful tool to assess the performance of the regional WRF simulations, it is important to examine the capability to recreate observed annual local scale wind patterns. To assess the local scale prevailing flow, wind roses were generated from the hourly WRF model output for the 2 km by 2 km grid cell and measurements from NWS stations. The WRF winds were retrieved from a grid in which a NWS station is located. An exact replication of the measured winds was not expected in the analysis. However, comparison of the modeled and measured annual average wind roses offers a visual comparison of the fit of the simulation to the local scale and assists in the evaluation of chemical transport model performances.

Figures IX-7a through IX-7f depict the wind roses for Fullerton, Burbank, San Bernardino, Long Beach, Santa Monica, and Riverside during the MATES IV sampling period from July 2012, to June 2013. Subtle nuances between the simulated and observed winds are observed at all stations. In general, wind speeds are slightly lower for the WRF simulation. The directional frequencies are reasonably well-captured at most sites, with an offset in the primary wind vector of less than one sector (22.5 degrees). It is important to note that the local emissions sources (particularly ground level) directly upwind of the monitoring site have a significant impact to the measured concentration profile. As such, a minor one-sector difference in the simulated wind direction may impact the CAMx RTRAC performance.

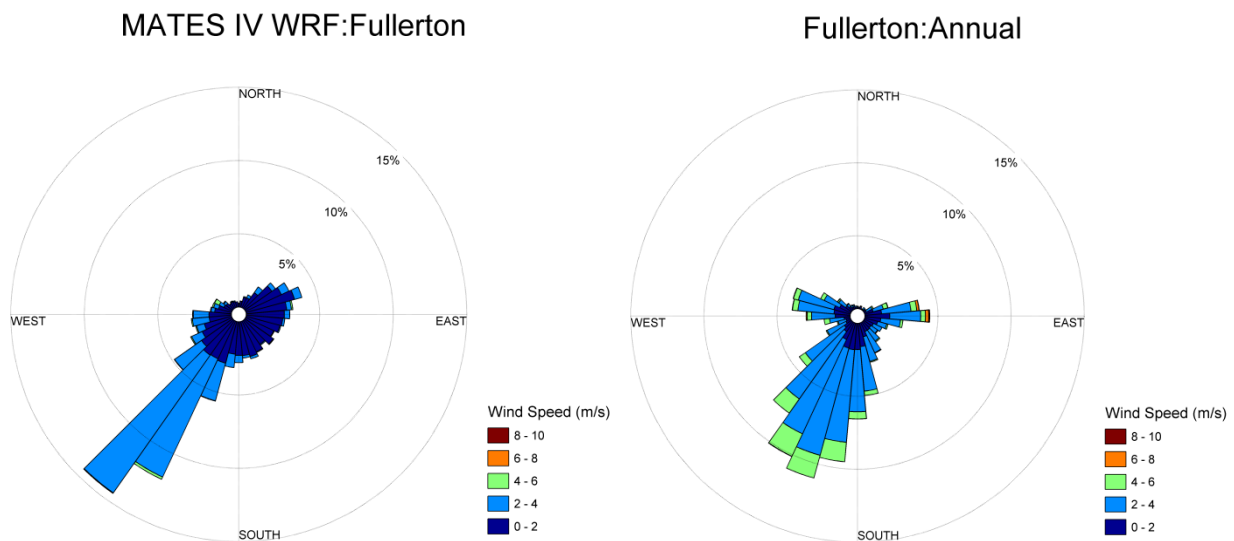


Figure IX-7a.
WRF Simulated and Observed Annual Wind Roses at Fullerton.

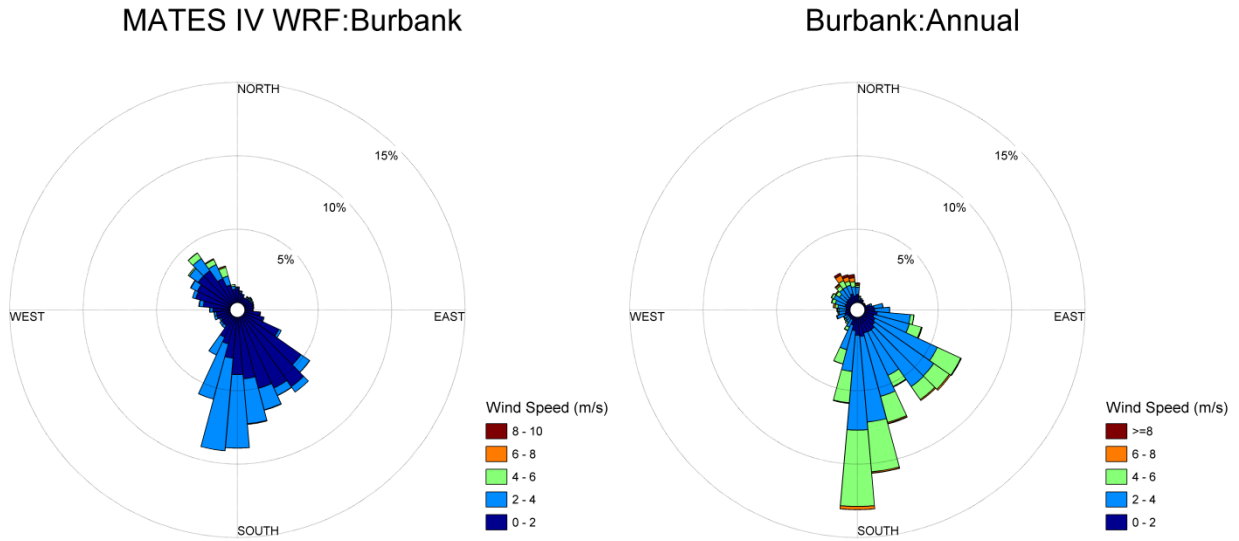


Figure IX-7b.
WRF Simulated and Observed Annual Wind Roses at Burbank.

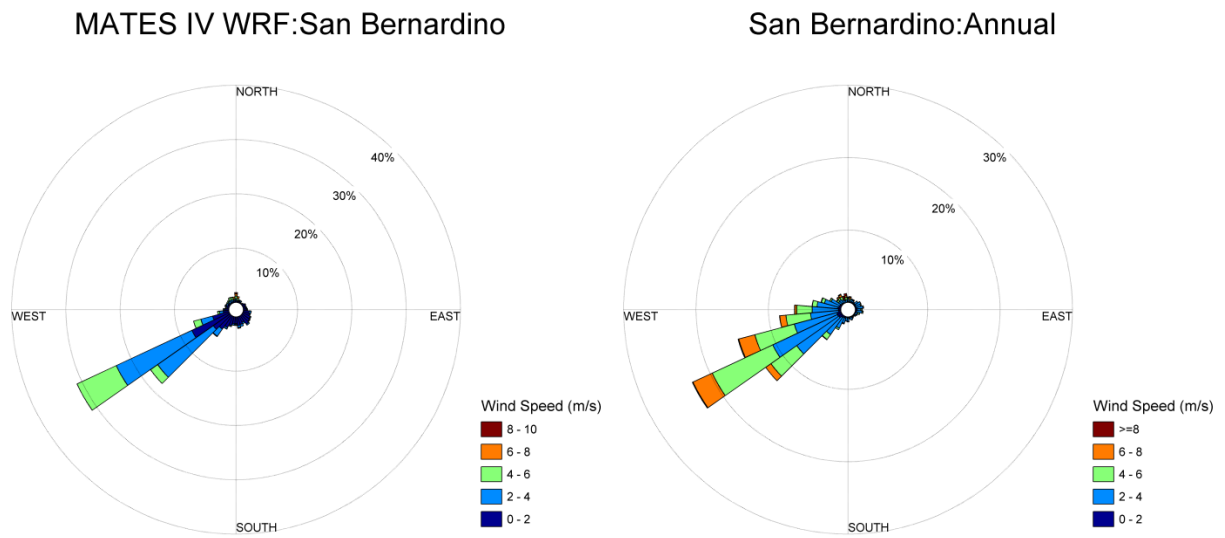


Figure IX-7c.
WRF Simulated and Observed Annual Wind Roses at San Bernardino.

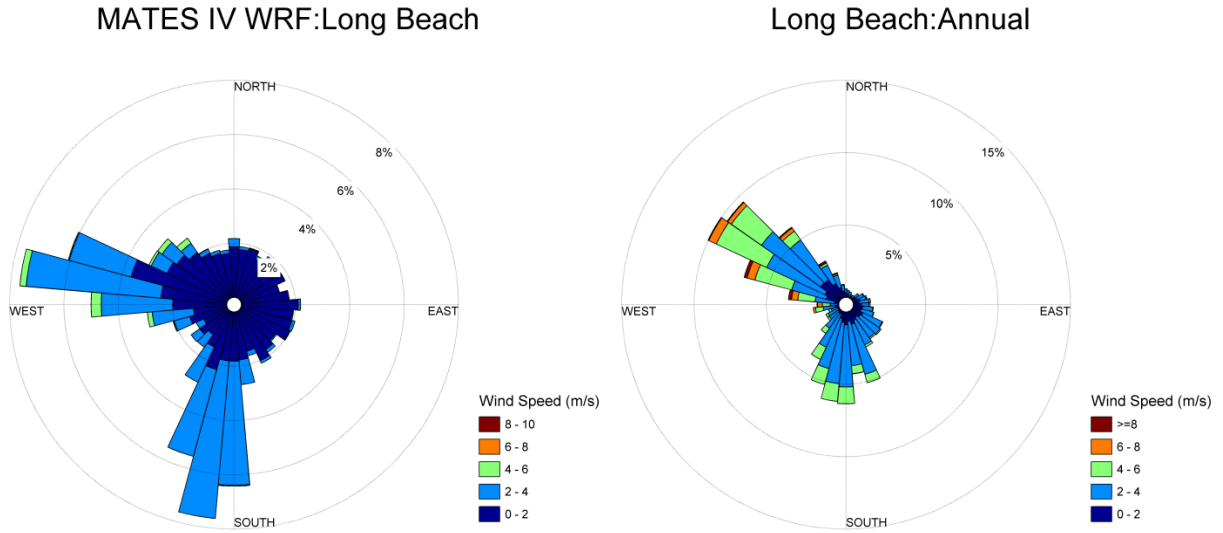


Figure IX-7d.
WRF Simulated and Observed Annual Wind Roses at Long Beach.

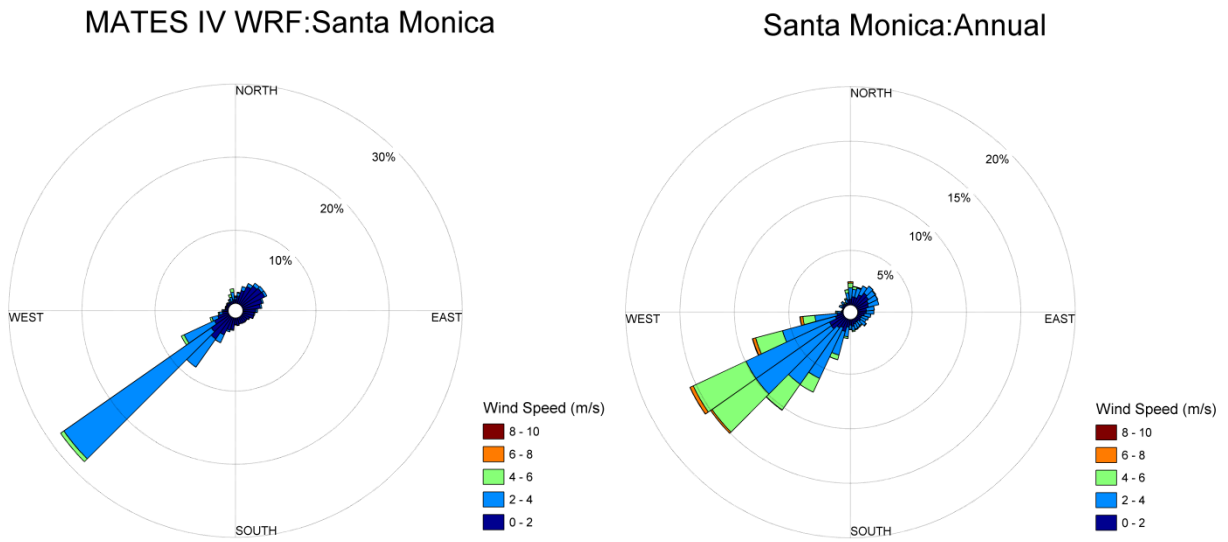


Figure IX-7e.
WRF Simulated and Observed Annual Wind Roses at Santa Monica.

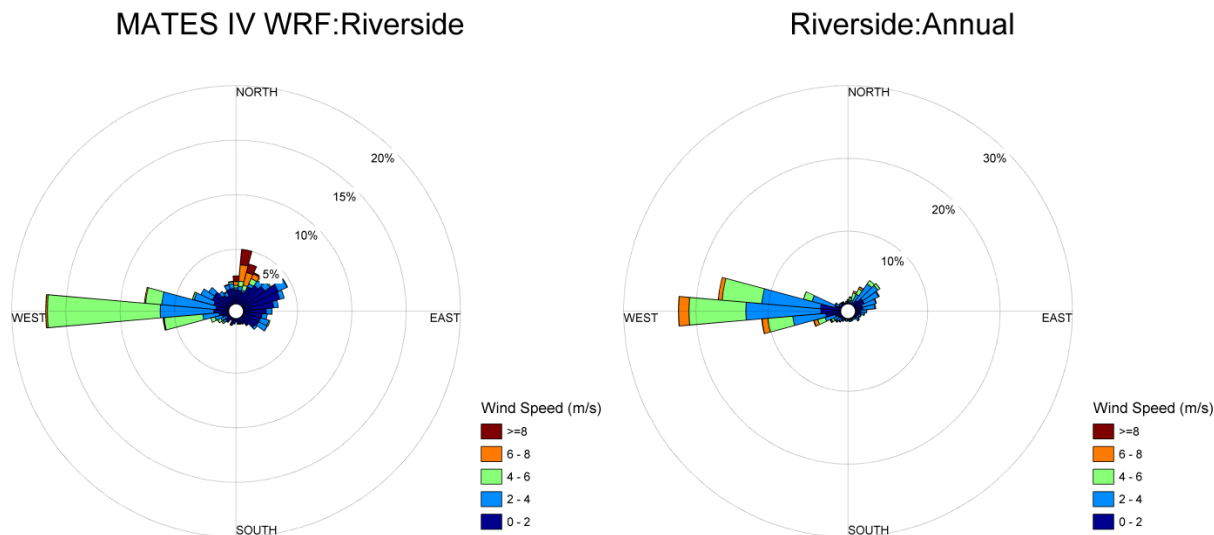


Figure IX-7f.

WRF Simulated and Observed Annual Hourly Averaged Wind Roses at Riverside.

IX.8 Vertical Dispersion

The WRF output was converted to the CAMx RTRAC format using ‘wrfcamx_v3.2’ software. Vertical diffusivity (K_v), which is critical in vertical dispersion, was computed using CMAQ vertical diffusivity scheme with a minimum value of $1.0 \text{ m}^2/\text{sec}$. The number of vertical layers was reduced to 18 layers from the 30 layer configuration used in the WRF. The layers of which height was below 2 km from the ground level were not modified. The layers above 2 km were collapsed to four layers in order to reduce computation cost. Note that the vertical structure was chosen carefully to optimize computational efficiency and numerical accuracy after an extensive sensitivity study to evaluate the impact of vertical layer structure using various numbers of computational layers.

During the development phase of the meteorological data sets, WRF was tested using a variety of mixing scheme including CMAQ (Byun and Ching, 1999) and the O’Brien 70 [OB70] (O’Brien, 1970), with various values of default minimum vertical diffusivity, ranging from 0.1 to $1.0 \text{ m}^2/\text{sec}$.

Based on peer review comments from MATES III and experiences from previous MATES and AQMP attainment demonstrations, the K_v patch algorithm (Environ, 2006) was applied in the dispersion calculation. The K_v patch algorithm imposes minimum K_v values that are pre-assigned for each land use category, regardless of the diffusivity estimated from the WRF simulated meteorological condition. In the current study, the first and second computational layers, which are centered approximately 80 m and 140 m above ground level, respectively, were subject to the direct modification of the K_v through the K_v patch.

EC_{2.5} concentration from CAMx RTRAC revealed that that the *OB70* scheme predicted higher concentrations at key sites. This overprediction occurred in the CMAQ scheme with 0.1 m²/sec minimum diffusivity, as well. All of the combinations, regardless of layer structure or minimum *K_v*, resulted in overprediction at Long Beach and West Long Beach and underprediction to varying degrees at Rubidoux and Inland Valley San Bernardino. The use of *K_v* patch modestly improved the bias. This nominal impact was attributed to the fact that 1.0 m²/sec chosen as default minimum *K_v* was relatively large so that the *K_v* patch did not introduce significant changes in tracer dispersion.

In all, after careful evaluation of various sensitivity analyses, the vertical dispersion profile used in the final MATES IV CAMx RTRAC simulations relied on a 16-layer structure using the CMAQ diffusivity scheme overlaid with the *K_v*-patch option set at 1.0 m²/sec value of *K_v*.

IX.9 MATES IV Modeling Emissions

An updated version of the 2012 AQMP emissions inventory for the year 2012 provided mobile and stationary source input for the MATES IV CAMx RTRAC simulations. Mobile source emissions were adjusted for time-of-day and day-of-week travel patterns based on CalTrans weigh-in-motion data profiles. Table IX-3 lists the annual average day emissions projected for 2012. (A comprehensive breakdown of the planning VOC, NO_x, CO, SO₂ and particulate emissions for 2012 used in the MATES IV simulation is provided in Chapter 3 and Appendix XIII). Table IX-3 also includes the MATES III TSP and PM_{2.5} diesel emissions for 2005 for comparison.

A comparison of the MATES IV (2012 AQMP) 2012 projection of the PM_{2.5} diesel emissions shows a 66% reduction in emissions from the 2005 emissions used in MATES III. The most significant area of diesel particulate matter emissions reduction occurs in the off-road categories. While most of those emissions reductions are real, reflecting control efforts and fleet turnover in the past several years, some of the changes are due to methodological changes in emissions inventories employed in the two AQMPs.

Figures IX-8a through IX-8x provide the grid-based weekday modeling emissions for selected toxic pollutant and precursor emissions categories.

IX.10 MATES IV vs. MATES III: Key Emissions Modeling Assumptions

Since the regional modeling effort in MATES II, the basic approach in preparing modeling emissions remained the same, i.e., based on the corresponding AQMP inventories and speciation profiles. Three relatively minor changes to emissions data preparation were implemented in the MATES IV modeling. First, emissions from ocean-going vessels in the shipping lanes and ports were assumed emitted into the stacks with stack parameters based on Mason, *et al.* (2008) while emissions from harbor craft and commercial boats were released at sea level. In MATES III, the combined shipping emissions were assumed to be 70% released through stacks while the rest at sea level.

Table IX-3
Annual Average Diesel/EC Emissions in the SCAB (TPD)

Compound	MATES IV 2012		MATES III 2005	
	PM _{2.5}	TSP	PM _{2.5}	TSP
EC	11.58	14.74	14.38	19.44
Total Diesel Particulate Matter (DPM)	9.43	10.24	27.99	30.34
DPM per Major Source Category				
On-road	4.97	5.40	10.20	11.08
Off-road	2.94	3.20	11.23	12.21
Ships	0.74	0.78	5.18	5.55
Trains	0.56	0.61	0.86	0.94
Stationary	0.22	0.25	0.52	0.55
Total DPM	9.43	10.24	27.99	30.34

Diesel Emissions (PM_{2.5})

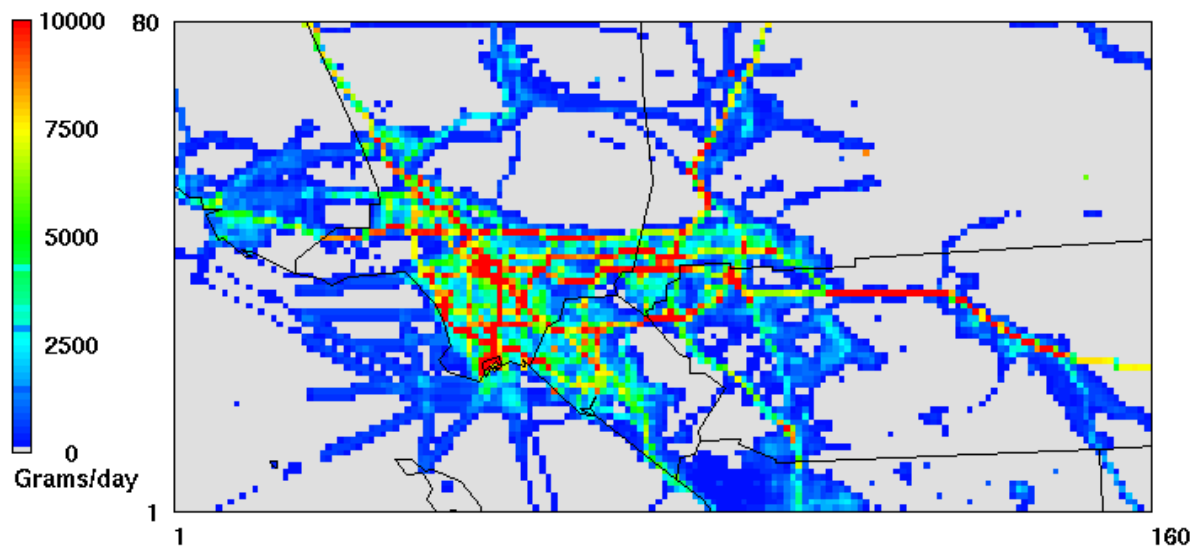


Figure IX-8a
Weekday average emissions pattern for Total Diesel PM_{2.5}.

Elemental Carbon Emissions (PM2.5)

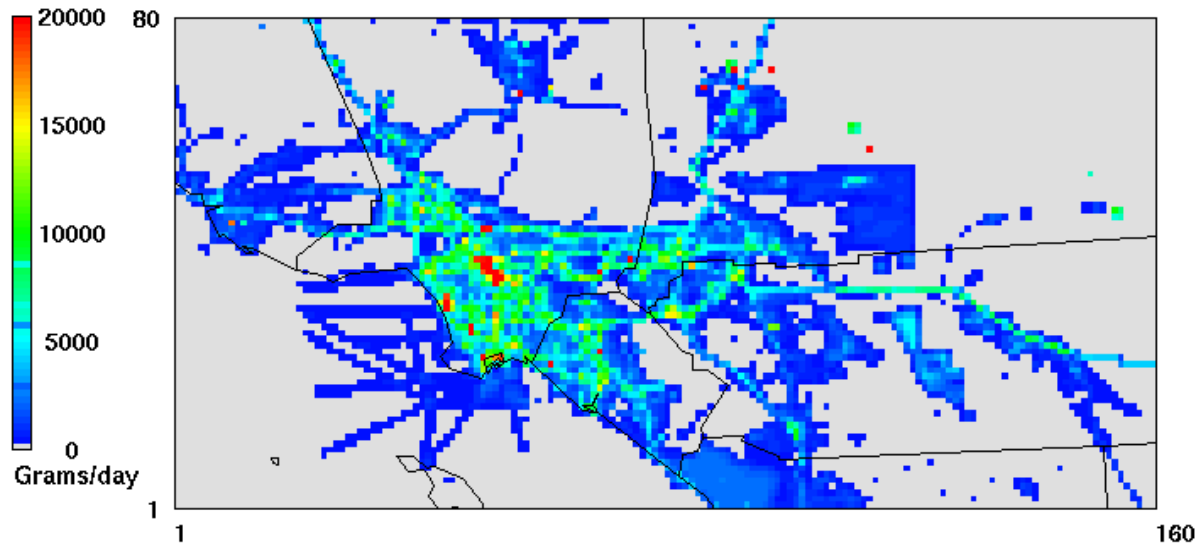


Figure IX-8b
Weekday average emissions pattern for Elemental Carbon.

On-Road Diesel Emissions (PM2.5)

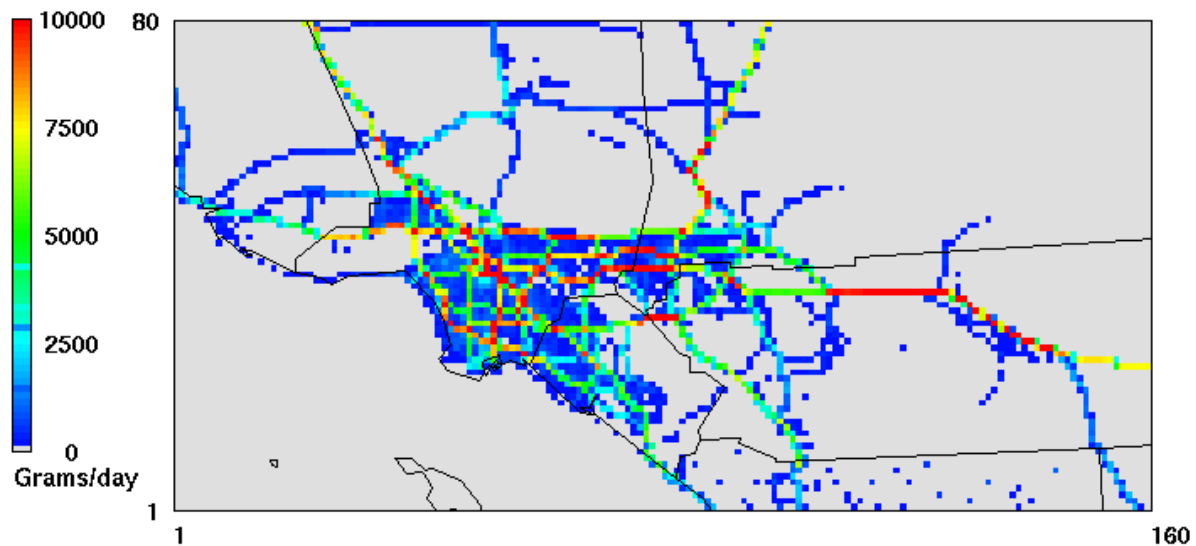


Figure IX-8c
Weekday average emissions pattern for On-Road Diesel PM_{2.5}.

Off-Road Diesel Emissions (PM_{2.5})

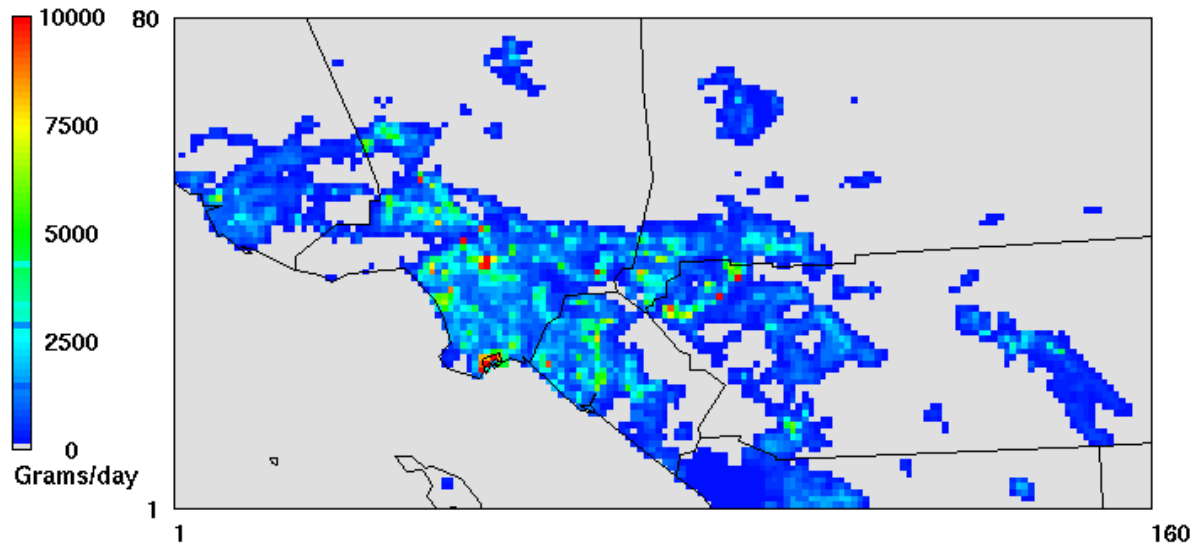


Figure IX-8d
Weekday average emissions pattern for Off-Road Diesel PM_{2.5}.

Pattern of Diesel Emissions (PM_{2.5}) from Ships

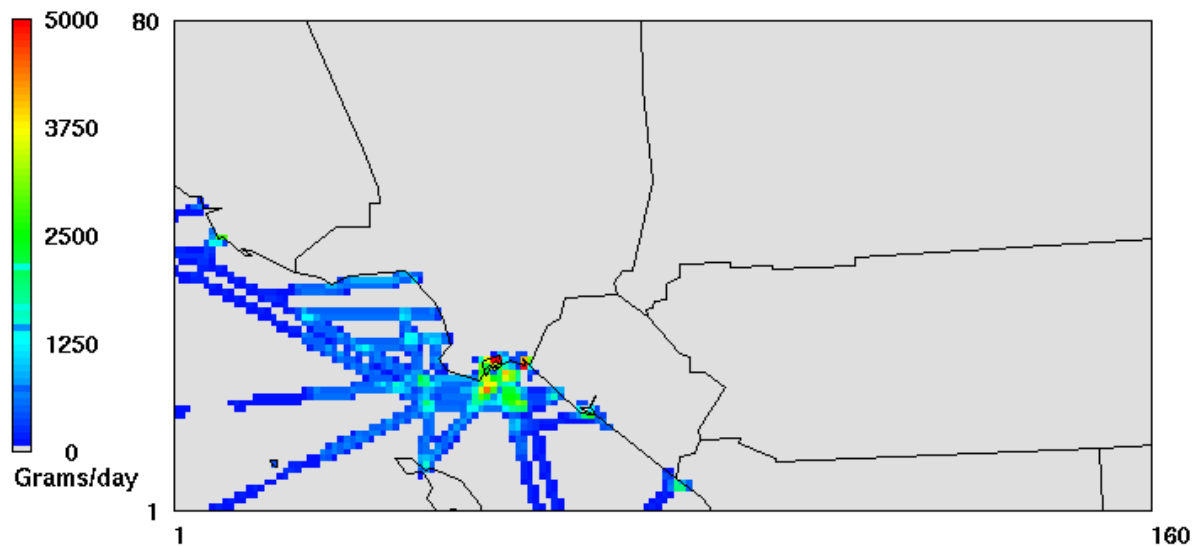


Figure IX-8e
Weekday average emissions pattern Diesel PM_{2.5} from Ships.

Diesel Emissions (PM_{2.5}) from Trains

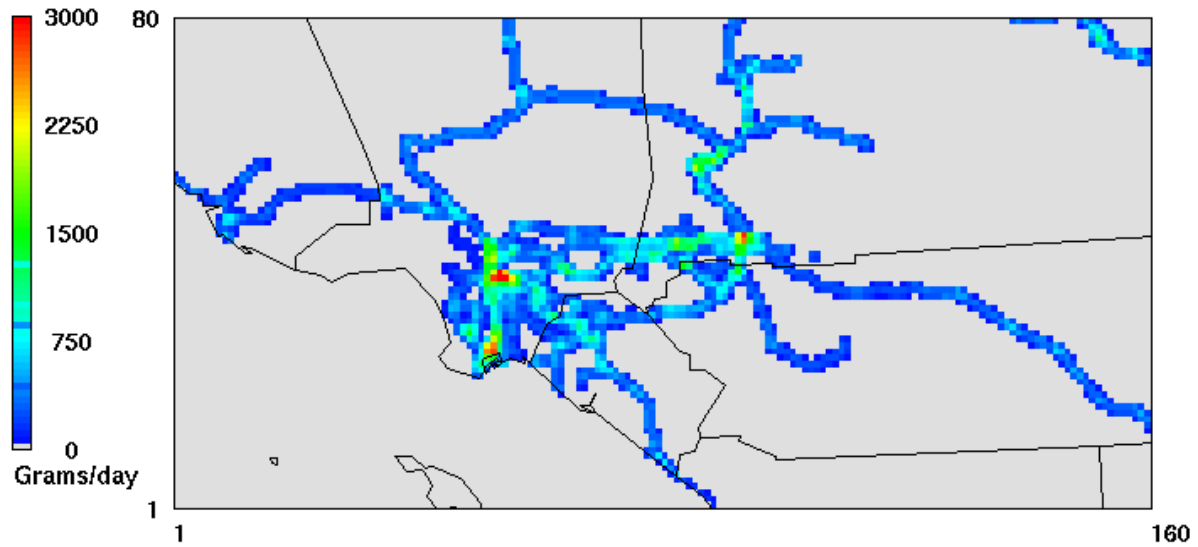


Figure IX-8f
Weekday average emissions pattern Diesel PM_{2.5} from Trains.

Stationary Diesel Emissions (PM_{2.5})

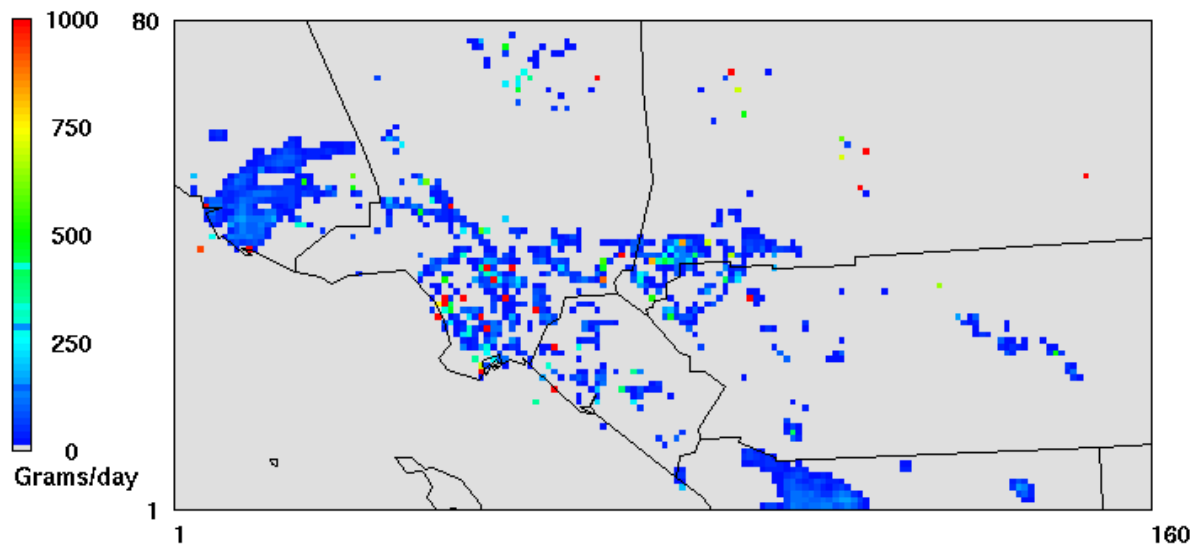


Figure IX-8g
Weekday average emissions pattern Diesel PM_{2.5} from Stationary Sources.

Distributions of VOC Emissions as represented by ALK4 emissions

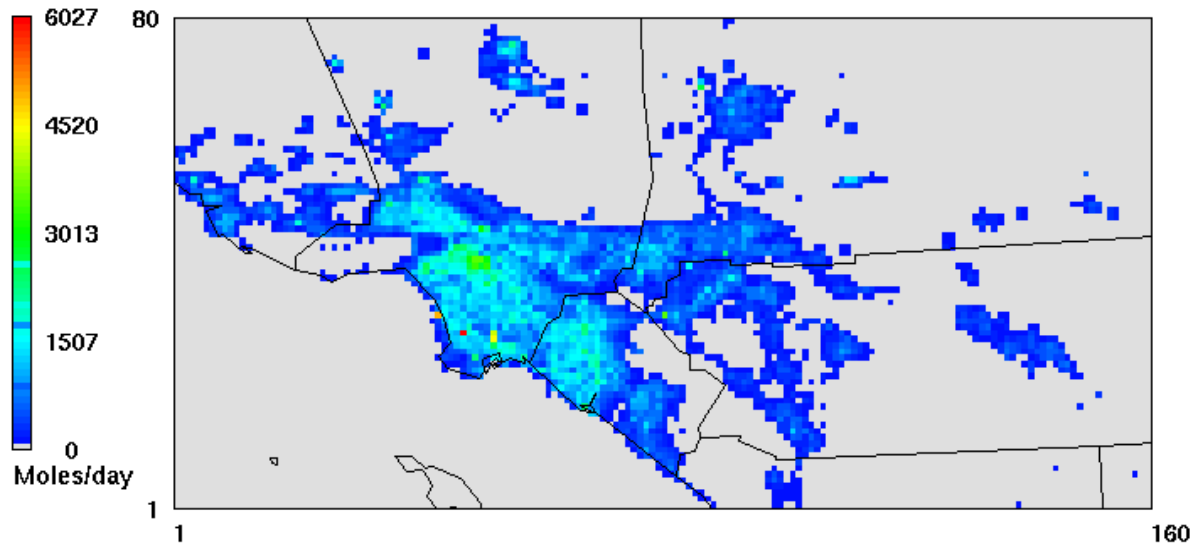


Figure IX-8h
Weekday average VOC emissions pattern.

NOx Emissions

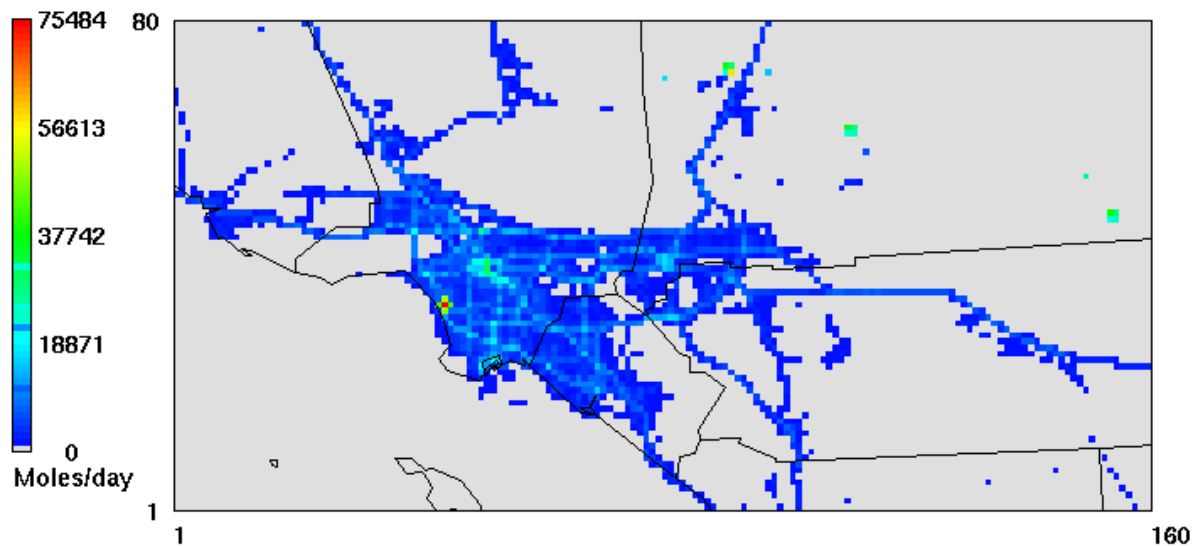


Figure IX-8i
Weekday average NOx emissions pattern.

CO Emissions

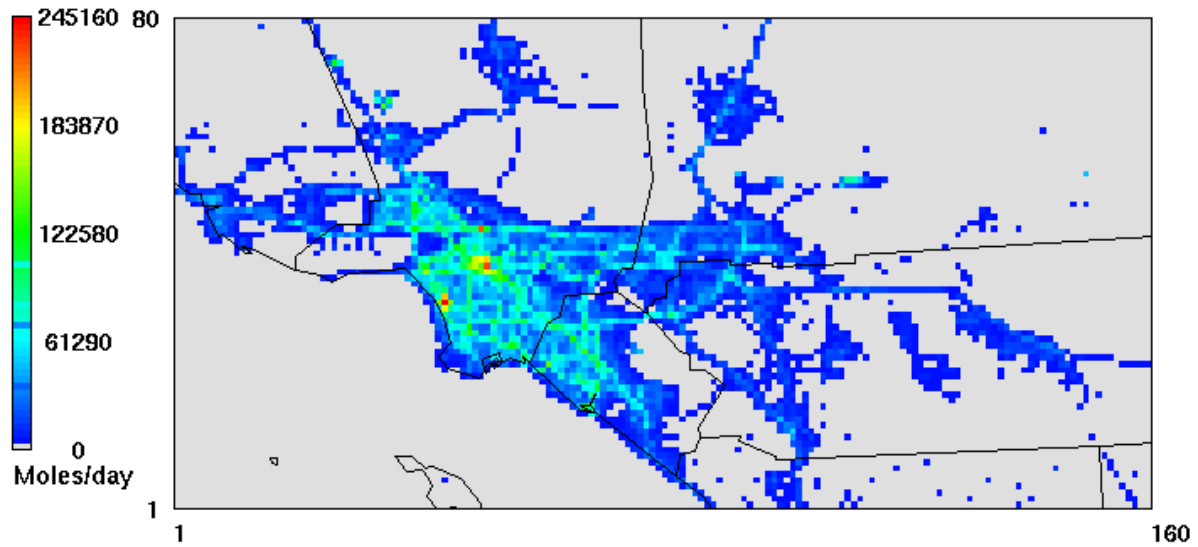


Figure IX-8j
Weekday average CO emissions pattern.

Acetaldehyde Emissions

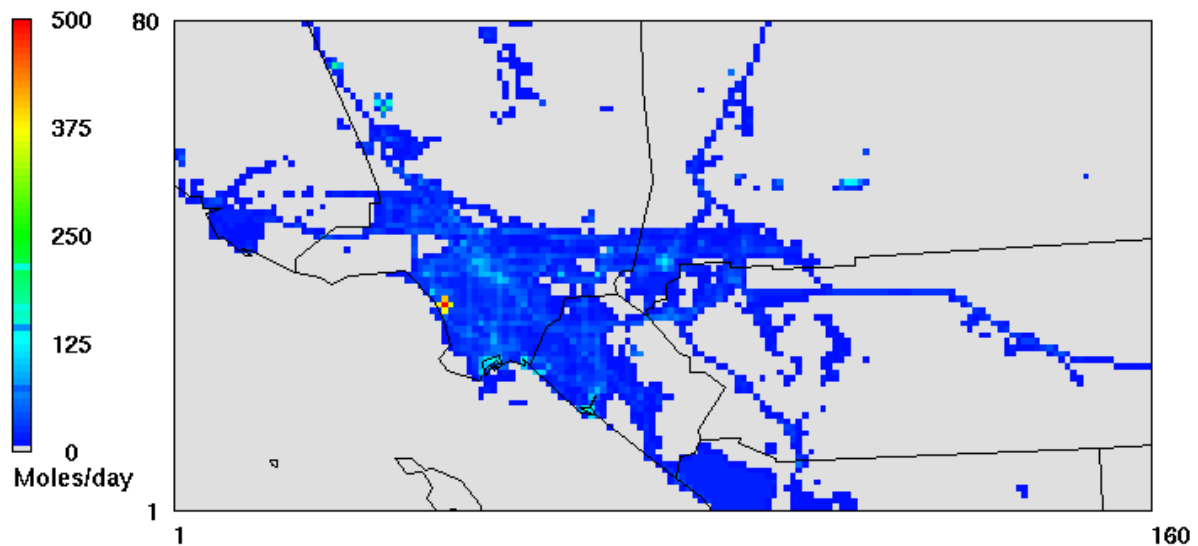


Figure IX-8k
Weekday average emissions pattern for Acetaldehyde.

Arsenic Emissions (PM2.5)

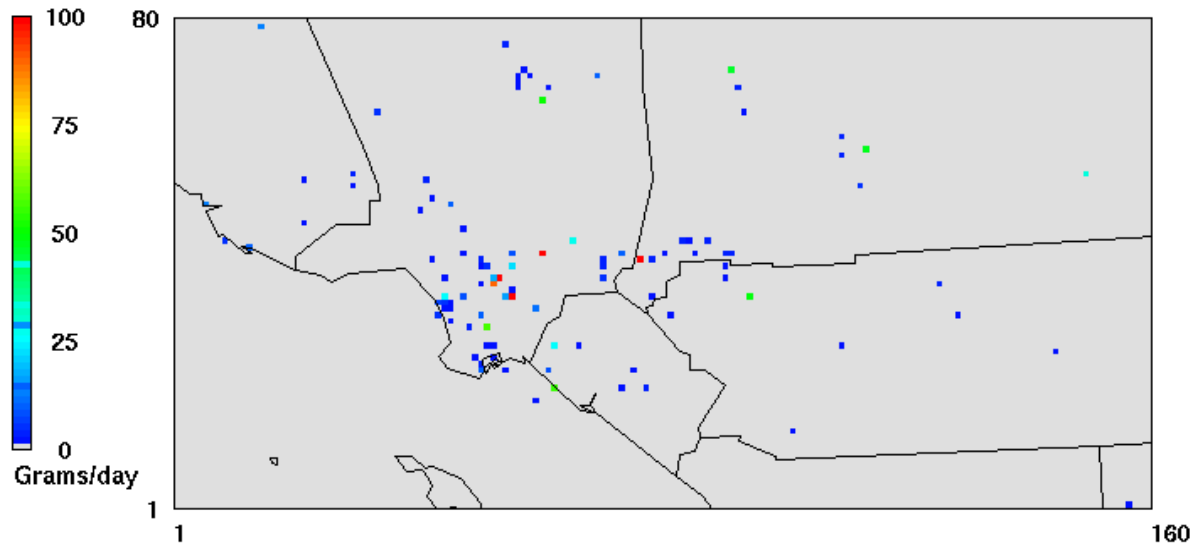


Figure IX-8l
Weekday average Arsenic emissions pattern.

Benzene Emissions

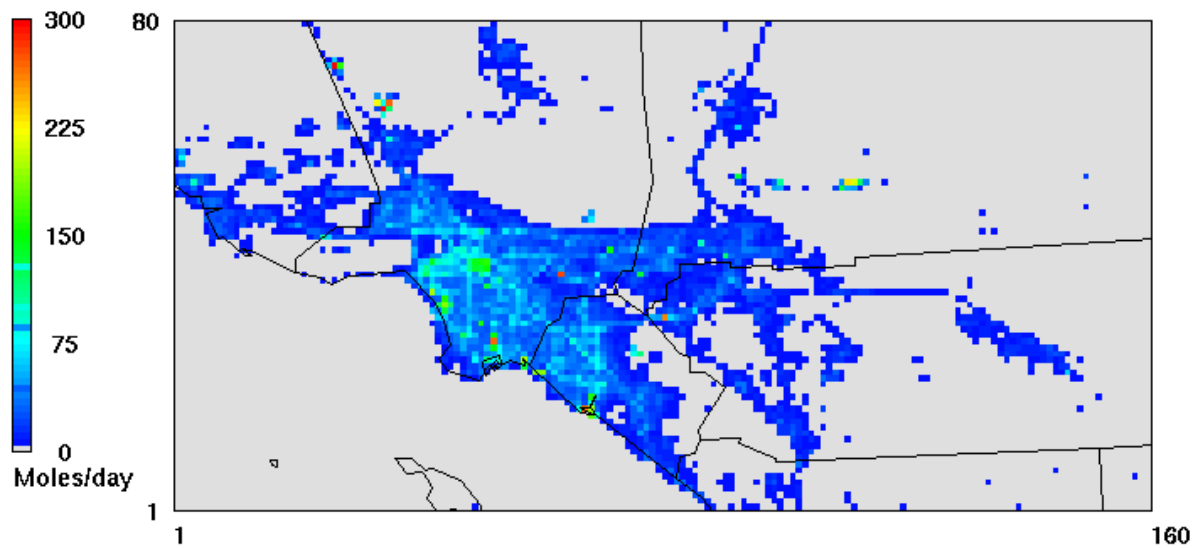


Figure IX-8m
Weekday average Benzene emissions pattern.

1,3Butadiene Emissions

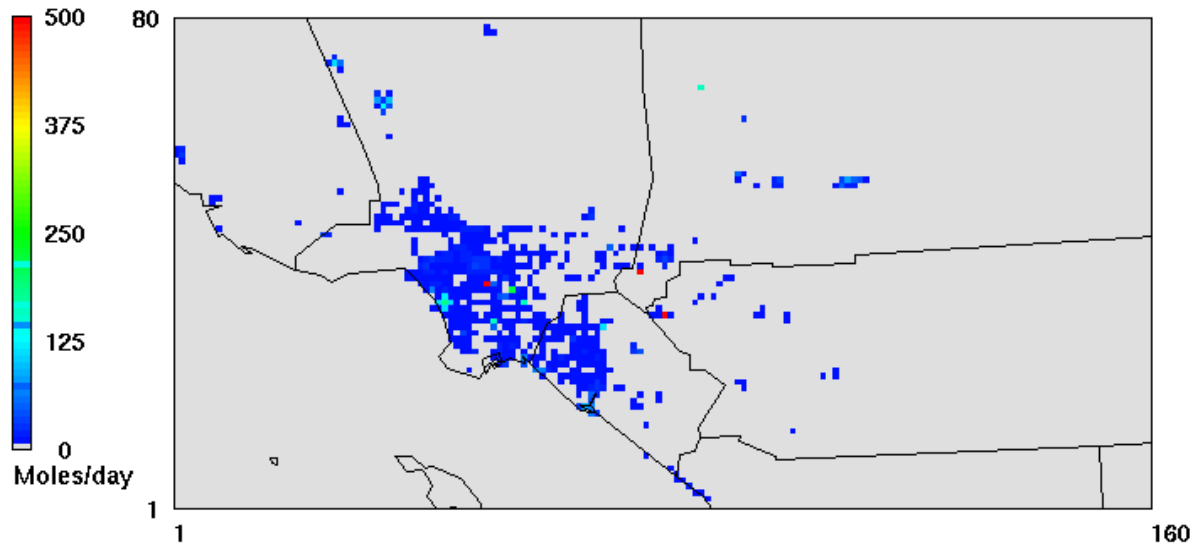


Figure IX-8n
Weekday average 1,3-Butadiene emissions pattern.

Cadmium Emissions (PM2.5)

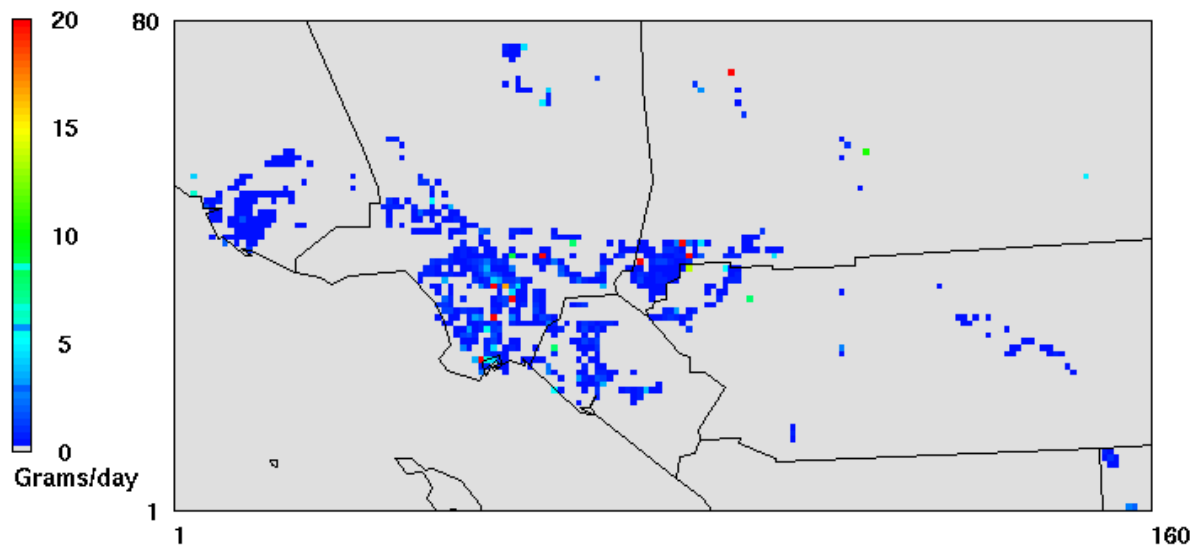


Figure IX-8o
Weekday average Cadmium PM_{2.5} emissions pattern.

Chromium Emissions (PM2.5)

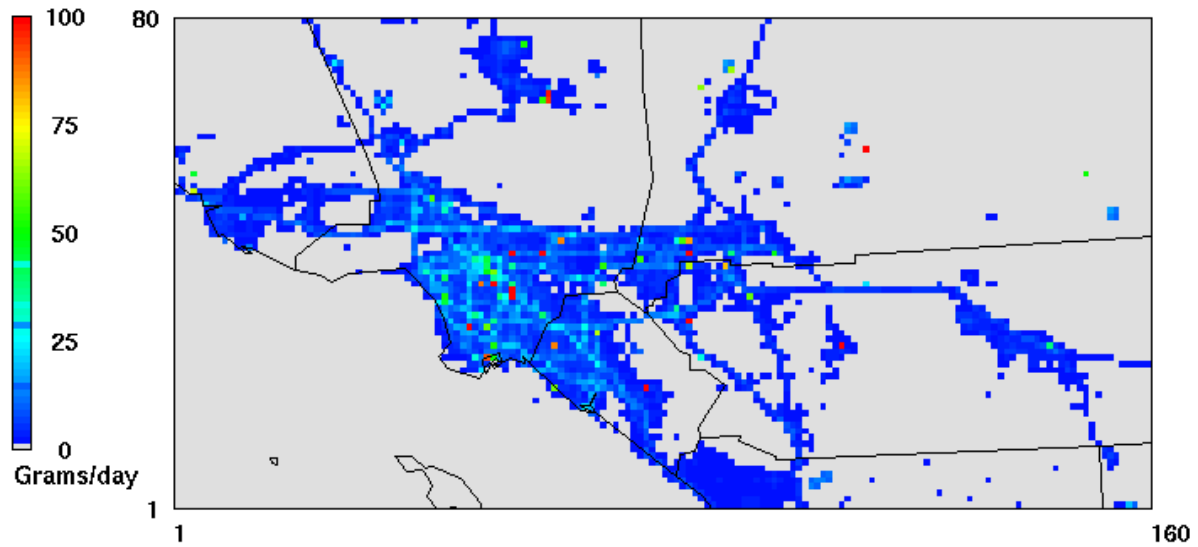


Figure IX-8p
Weekday average Chromium PM_{2.5} emissions pattern.

Hexavalent Chromium Emissions (PM2.5)

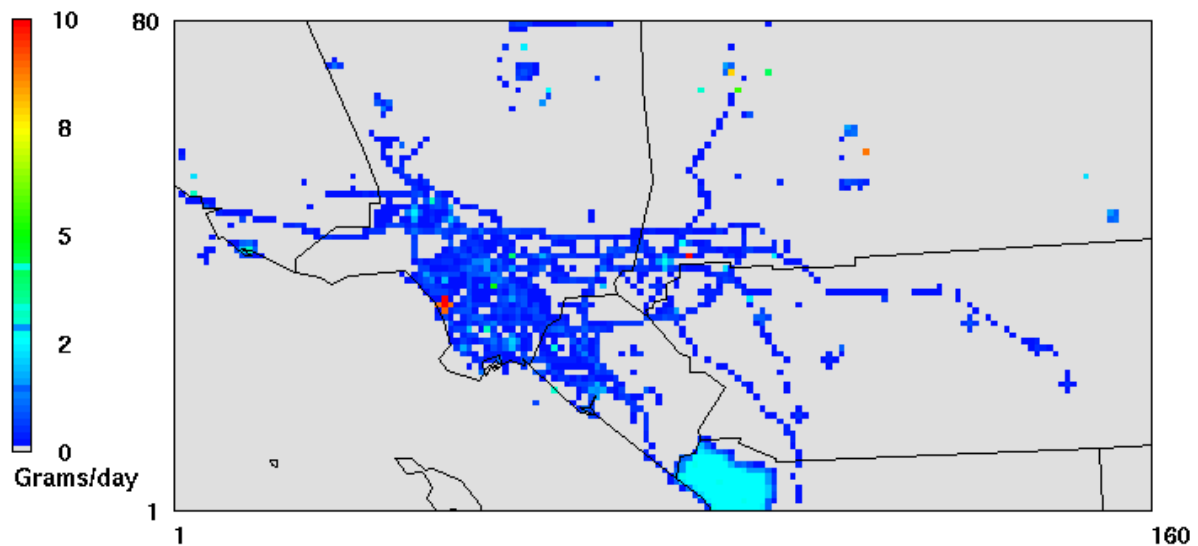


Figure IX-8q
Weekday average Hexavalent Chromium PM_{2.5} emissions pattern.

Lead Emissions (PM_{2.5})

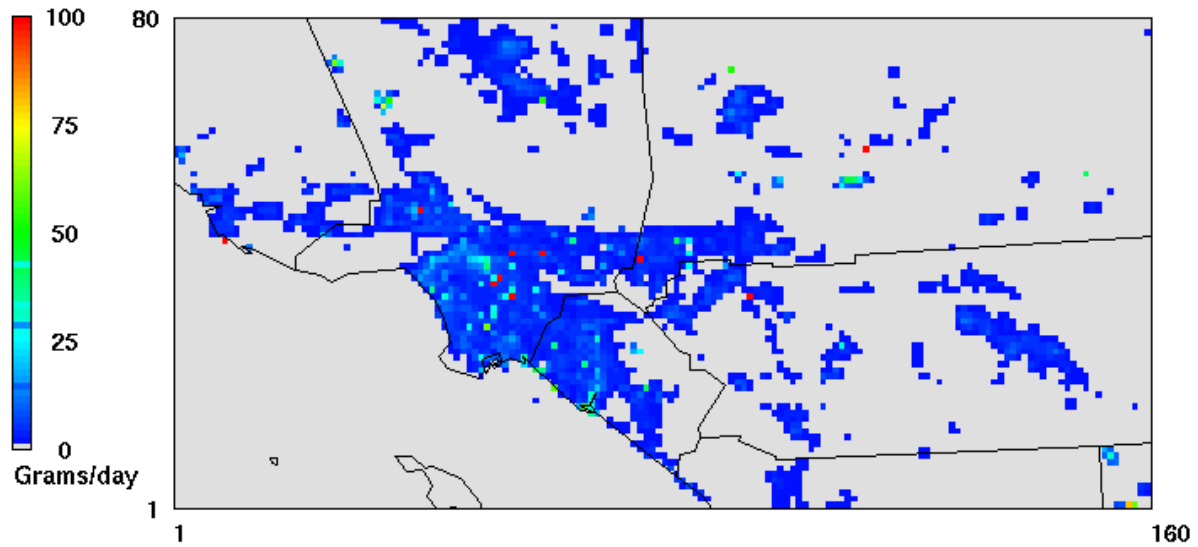


Figure IX-8r
Weekday average Lead PM_{2.5} emissions pattern.

Methylene Chloride Emissions

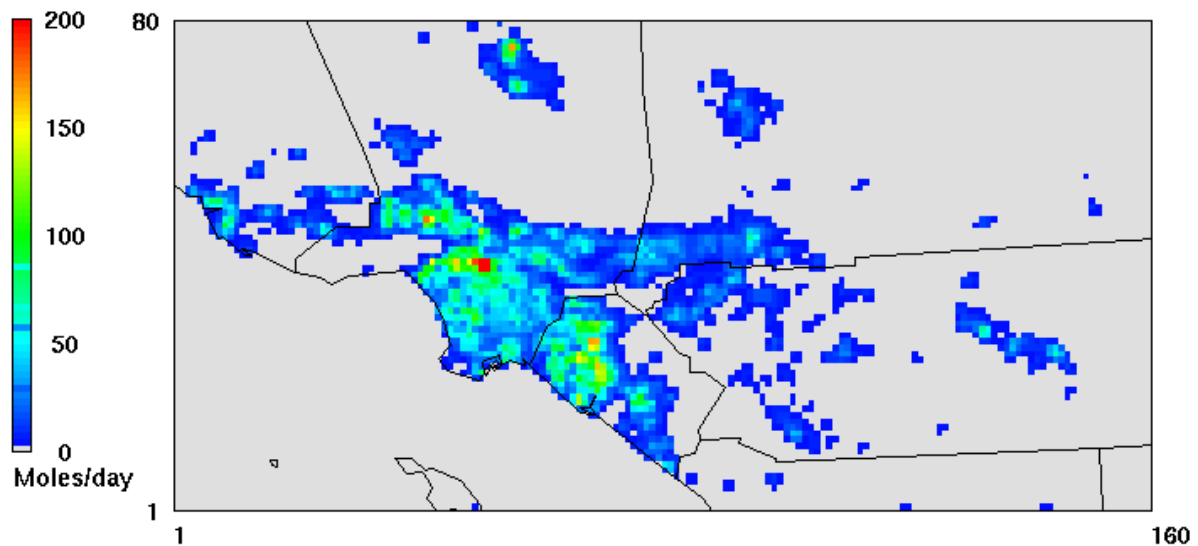


Figure IX-8s
Weekday average Methylene Chloride emissions pattern.

Naphthalene Emissions

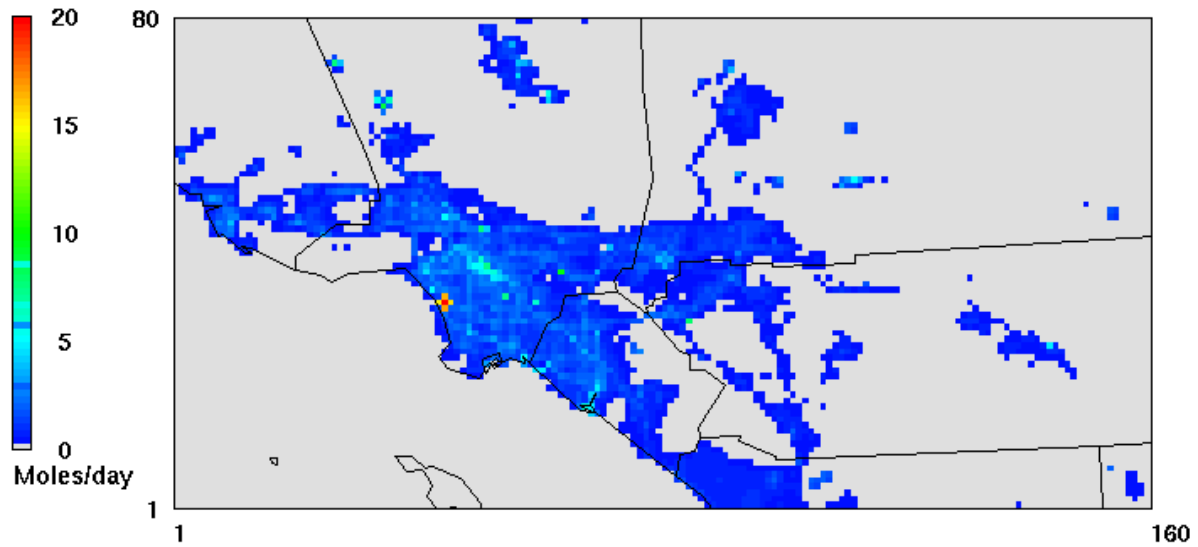


Figure IX-8t
Weekday average Naphthalene emissions pattern.

Nickel Emissions (PM2.5)

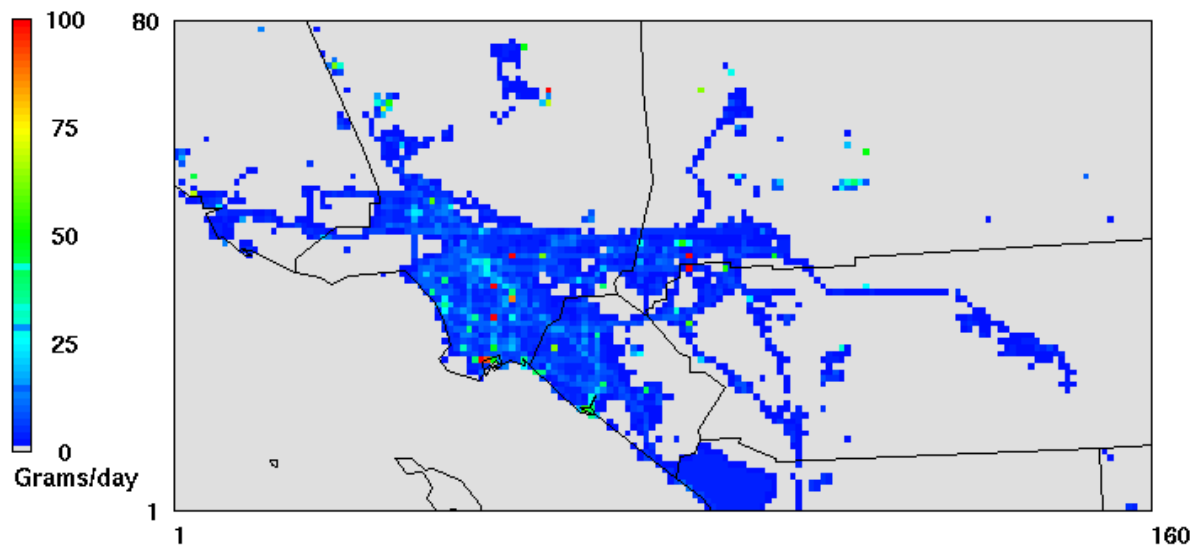


Figure IX-8u
Weekday average Nickel PM_{2.5} emissions pattern.

p-Dichlorobenzene Emissions

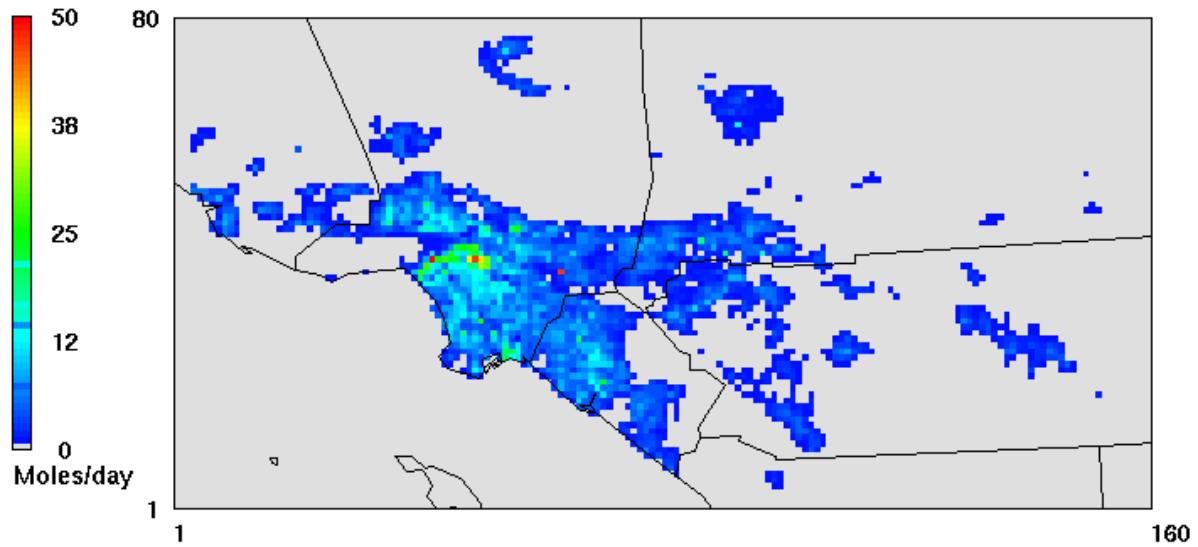


Figure IX-8v
Weekday average p-Dichlorobenzene emissions pattern.

Perchloroethylene Emissions

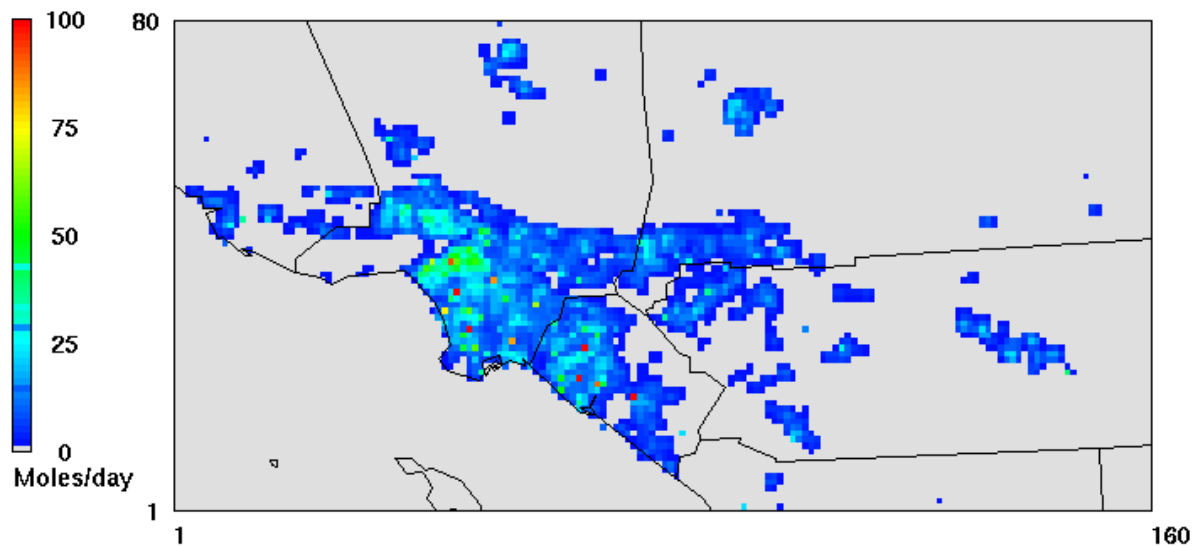


Figure IX-8w
Weekday average Perchloroethylene emissions pattern.

Trichloroethylene Emissions

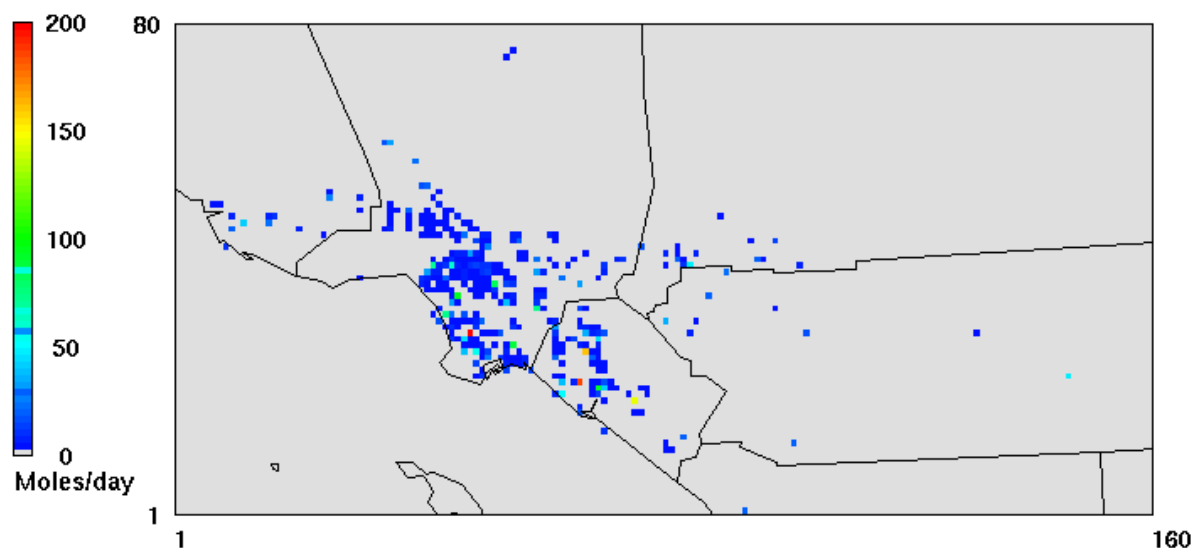


Figure IX-8x
Weekday average Trichloroethylene emissions pattern.

The California Air Resources Board (CARB) maintains the speciation profile library for the California emissions and provides periodic updates. Compared to the MATES III, there are some significant changes in the speciation profiles. In particular, elemental carbon content in diesel emissions increased substantially. In addition, the preparation of on-road emissions was modified. For MATES IV, on-road emissions were prepared based on day-specific temperature and relative humidity with vehicular activities for Monday, Friday, Saturday, Sunday and a single profile representing Tuesday through Thursday, while the MATES III on-road inventories were made with monthly averages of Weekday, Saturday, and Sunday emissions.

IX.11 Boundary and Initial Conditions

The initial and boundary condition files were prepared using the *icbcrep* utility included in the CAMx standard package. The utility prepares uniform boundary and initial conditions with prescribed values. Those values were presented in the Table IX-4. However, the initial values turn out to be not significant in the annual modeling, since the footprint of the initial values typically disappear in approximately seven to 10 days of time integration, depending on grid size and chemical mechanism.

Table IX-4
Boundary Condition Values

Gas (ppm)				Particle (ug/m ³)			
Compound	Value	Compound	Value	Compound	Values	Compound	Value
NO	0.000	ARO1	0.00021	DSL	0.05	DSL	0.003
NO2	0.0001	ARO2	0.00007	EC	0.05	ECC	0.003
O3	0.03	OLE1	0.00018	OC	0.10	OCC	0.01
HCHO	0.00093	PHCHO	0.0001	CR	0.00001	CRC	0.00001
CCHO	0.00053	PACET	0.0001	CR6	0.00	CR6C	0.00
RCHO	0.00025	SFORM	0.00083	AR	0.00001	ARC	0.00001
ISOP	0.00002	SACET	0.00043	CD	0.00001	CDC	0.00001
MEOH	0.0001	BENZ	0.0001	NI	0.00001	NIC	0.00001
COOH	0.00005	BUTA	0.00001	PB	0.00001	PBC	0.00001
CO	0.2	PDIC	0.00001	DPMa	0.045	DPMaC	0.0001
ETHE	0.00018	MCHL	0.00001	DPMb	0.020	DPMbC	0.0001
ALK1	0.0025	PERC	0.00001	DPMc	0.010	DPMcC	0.0001
ALK2	0.0023	TCE	0.00001	DPMd	0.010	DPMdC	0.0001
ALK3	0.00093	NAPH	0.00001	DPMe	0.001	DPMeC	0.0001

IX.12 Modeling Results

The performance of the CAMx regional modeling simulation is summarized through statistical and graphical analysis, including time series of key pollutant concentrations. Summarized in Table IX-5 are the measurements and model predictions of toxic components during the sampling period. Prediction Accuracy (PA), defined as the percentage difference between the mean observed and simulated concentrations, is given as an indicator for the model performance.

For 2012-2013 period, the model simulated concentrations of particulate matter species, such as EC_{2.5}, EC₁₀, and TSP metals, were biased high; this bias was the result, to a large extent, of uncertainties in emission inventory as well as the model's inability to accurately predict extremely low concentrations of PM species present during spring and summer. The model performed better for gaseous species. Concentrations of perchloroethylene, p-dichlorobenzene, trichloroethylene, 1,3-butadiene and naphthalene have become low enough that model performances for those pollutants are immaterial. Benzene, formaldehyde, and acetaldehyde were relatively well-simulated. Modeled and observed concentrations of methylene chloride compared well except at the Rudidoux site. Monitors at this site have experienced a dramatic increase in methylene chloride concentrations since 2009. The source(s) of this increase have not been determined.

Simulated annual average EC_{2.5} and EC₁₀ were used to assess overall model performance for the 2012-2013 MATES IV period. Tables IX-6a and IX-6b summarize the 2012-2013 MATES IV EC_{2.5} and EC₁₀ model performance, respectively.

EPA guidance (U.S. EPA, 2006) recommends evaluating gaseous and particulate modeling performance using measures of prediction bias and error. PA goals of $\pm 20\%$ for ozone and $\pm 30\%$ for individual components of PM_{2.5} or PM₁₀ have been used to assess simulation performance in previous modeling attainment demonstrations.

As shown in the Tables IX-6a and IX-6b, five of the 10 MATES IV sites meet the PM_{2.5} PA goal. The model performed significantly better with predictions of PM₁₀ concentrations, with only the Long Beach site exhibiting a large degree (34%) of overprediction of the annual average concentrations. In general, the model underpredicts annual average concentrations in places like Burbank, Inland Valley San Bernardino and Rubidoux, consistent with what was observed in our past modeling effort. On the contrary, concentrations in locations such as Long Beach, Compton, and Los Angeles are overpredicted.

For EC_{2.5}, overprediction was more pronounced than underprediction. Five of the 10 sites did not meet the performance goal due to overprediction. The greatest tendency for overprediction is at the West Long Beach site, with a PA of 67%. The mean error of the simulated versus measured concentrations ranges from 0.40 $\mu\text{g}/\text{m}^3$ to 1.00 $\mu\text{g}/\text{m}^3$. For EC₁₀, the model performance is markedly better. PA at nine of the 10 MATES IV sites meets the particulate goal with only Long Beach exhibiting a large degree (34%) of overprediction of the annual average concentration. Of the remaining sites, Compton, Los Angeles and West Long Beach are overpredicted by 21, 30 and 21%, respectively. For the remaining sites, PA falls within $\pm 20\%$ of observations. The mean error of the simulated versus measured concentrations ranges from 0.44 $\mu\text{g}/\text{m}^3$ to 0.86 $\mu\text{g}/\text{m}^3$.

Table IX-7 provides the CAMx RTRAC performance for benzene at the 10 MATES IV monitoring sites. Benzene model performance is included in the evaluation because of the confidence in the benzene measurement data based on the long-term monitoring conducted in the Basin and throughout California. With the exception of West Long Beach (15% over), the annual average benzene concentrations are underpredicted with Compton showing the largest low bias (43 %). This underprediction, can be mostly attributed to lower boundary values than used in the MATES III. Benzene emissions have been reduced by 47% since MATES III. Consequently, a boundary value of 0.15 ppb was used in MATES IV compared to 0.2 ppb in MATES III. In hindsight, since benzene has a long atmospheric residence time, its background value is influenced more by the global emissions. Reduction in the boundary value due to local emissions reductions is probably not warranted. Even with the negative bias, the overall model performance for benzene is reasonable.

The time series fit of the simulated $EC_{2.5}$ and EC_{10} concentrations to measurements for each station is depicted in Figures IX-9a through IX-9j. As evident in the plots, for the four sites (Burbank, Inland Valley San Bernardino, Pico Rivera, and Rubidoux) with moderate under-predictions, the negative bias is mostly due to uncertainties associated with emissions inventory as well as meteorological conditions inductive for high concentrations occurred during winter. In contrast, at the sites where the model overpredicts, low concentrations measured during spring and summer were not simulated accurately, indicating a limitation that a current numerical model has for an exceptionally low concentration case.

IX.13 Comparison with MATES III Simulation

Tables IX-8 and IX-9 provide a comparison of the 2012-2013 MATES IV and 2005 MATES III model performance for $EC_{2.5}$ and benzene, respectively. Listed in each table are PA, bias, and mean error.

As presented in Table IX-9, compared to MATES III modeling, where only one site (Burbank) exhibited substantial underprediction, MATES IV modeling exhibited an overall tendency to overpredict $EC_{2.5}$. The overall characteristics of the two sets of modeling are similar: i.e. the sites with under or overpredictions are consistent. The two sets of modeling results for benzene behaved similarly. The model underpredicted concentrations in places like Burbank and Compton and overpredicted concentrations in West Long Beach.

IX.14 Simulation Evaluation Averaged Over the Monitoring Network

For this comparison, the monitored data for six stations are combined to provide an estimate of average Basin-wide conditions for the two sampling periods: 2012-2013 and 2005. Table IX-10 summarizes the network average measured and predicted pollutant concentrations over the eight sites. Two stations in 2005, Huntington Park and Pico Rivera, did not have complete measurement records for the full 12 months and were excluded from the analysis. CAMx RTRAC simulated pollutant concentrations for the eight stations that have complete data for the two measurement periods were calculated from the grid data using the distance weighted nine-cell average. Measured concentrations of naphthalene were available for Long Beach, Central

Los Angeles, and Rubidoux. Each of the four counties is represented by at least one station. The eight stations' average measured and simulated concentrations provide an estimate of the regional profile but with a bias towards impacts to the coastal communities in the heavily transited areas of the Basin. Moreover, the assessment provides a direct comparison for model performance evaluation.

For 2012-2013, the model simulated concentrations of particulate matter species, such as EC_{2.5}, EC₁₀, and TSP metals were biased high. The model performed better for gaseous species. Concentrations of perchloroethylene, p-dichlorobenzene, trichloroethylene, 1,3-butadiene and naphthalene have become low enough that model performances for those pollutants are immaterial. Benzene, formaldehyde and acetaldehyde were well-simulated. Modeled and observed concentrations of methylene chloride compared exceptionally well except at the Rubidoux site. Monitors at this site have experienced a dramatic increase in methylene chloride concentrations since 2009. The source(s) of this increase have not been determined.

In general, 2005 model simulated particulate EC_{2.5}, EC₁₀, hexavalent chromium and PM_{2.5} nickel average annual toxic compound concentrations compared well with the measured annual average values. The majority of gaseous components were well-simulated with the sole exception of acetaldehyde, which was underpredicted. Arsenic and TSP lead exhibit the greatest tendency for overprediction. Cadmium and PM_{2.5} lead concentrations tend to be underpredicted. In general, the concentrations of the gaseous compounds are closely recreated.

IX.15 Simulation Estimated Spatial Concentration Fields

Figures IX-10a through IX-10u depict the CAMx projected annual average concentration distributions of selected toxic compounds as well as the impacts of five emissions categories of diesel particulates in the Basin. In general, the distribution of diesel particulates follows the major arterials. The highest concentration (2.9 µg/m³) was simulated to occur around the Ports of Los Angeles and Long Beach. The peak diesel concentration is much lower than the previous MATES studies, due, in a large part, to emission reductions from ocean-going vessels at near coastal waters and at ports. Figures IX-10h and IX-10i provide the distributions of benzene and 1,3-butadiene, respectively, whereby the toxic compounds are almost uniformly distributed throughout the Basin (reflecting patterns of gasoline fuel consumption). The ambient concentrations of formaldehyde in the SCAB are made up from direct emissions, primarily from combustion sources, secondary formation from the oxidation of anthropogenic and biogenic VOCs. The formaldehyde profile, shown in Figure IX-10j, depicts this characteristic of its origins, with measurable concentrations in the heavily traveled western and central Basin and additional elevated levels in the downwind areas of the Basin that are impacted by higher levels of ozone formation. Due to continued reduction of combustion source emissions, the formaldehyde concentrations are dominated by secondary formation. The peak formaldehyde concentrations are now in the areas with elevated biogenic emissions.

Table IX-5
2012-2013 Station Observed and CAMx Simulated MATES IV Annual Average Concentrations

Compound	Units	Anaheim			Burbank			Compton			Inland Valley San Bernardino		
		Obs	Model	PA	Obs	Model	PA	Obs	Model	PA	Obs	Model	PA
1,3-Butadiene	ppb	0.09	0.04	-57	0.12	0.04	-71	0.14	0.05	-62	0.07	0.02	-65
Acetaldehyde	ppb	0.59	0.90	53	1.08	0.98	-9	0.84	0.87	3	1.03	0.99	4
As (2.5)	ng/m ³	N/A	0.40	N/A	N/A	0.37	N/A	N/A	0.62	N/A	N/A	0.36	N/A
As (TSP)	ng/m ³	0.24	0.53	121	0.46	0.58	27	0.52	1.42	175	0.91	0.87	-5
Benzene	ppb	0.33	0.28	-14	0.46	0.28	-38	0.50	0.28	-43	0.29	0.22	-24
Cd (2.5)	ng/m ³	N/A	0.15	N/A	N/A	0.12	N/A	N/A	0.54	N/A	N/A	0.35	N/A
Cd (TSP)	ng/m ³	N/A	0.25	N/A	N/A	0.23	N/A	N/A	0.69	N/A	N/A	0.70	N/A
Cr6 (TSP)	ng/m ³	0.03	0.15	470	0.04	0.16	575	0.12	0.19	60	0.05	0.18	296
EC ₁₀	μg/m ³	1.17	1.39	18	1.74	1.43	-18	1.50	1.81	21	1.74	1.42	-18
EC _{2.5}	μg/m ³	0.90	1.10	22	1.32	1.19	-9	1.06	1.48	39	1.38	1.13	-18
Formaldehyde	ppb	1.19	1.67	40	2.58	1.89	-27	2.08	1.66	-20	2.63	1.89	-28
Methylene Chloride	ppb	0.37	0.30	-20	0.24	0.28	18	0.17	0.26	50	0.28	0.13	-53
Naphthalene	ppb												
Ni (2.5)	ng/m ³	N/A	2.87	N/A	N/A	1.85	N/A	N/A	6.98	N/A	N/A	3.07	N/A
Ni (TSP)	ng/m ³	1.74	4.72	171	3.90	3.02	-22	4.06	8.31	105	4.05	4.57	13
Pb (2.5)	ng/m ³	N/A	1.25	N/A	N/A	1.27	N/A	N/A	1.96	N/A	N/A	3.69	N/A
Pb (TSP)	ng/m ³	2.14	3.37	57	5.27	3.82	-28	6.24	4.83	-23	9.80	9.67	-1
p-Dichlorobenzene	ppb	0.02	0.06	273	0.02	0.06	146	0.02	0.06	233	0.01	0.04	282
Perchloroethylene	ppb	0.04	0.09	118	0.05	0.08	83	0.04	0.09	113	0.05	0.05	6
Trichloroethylene	ppb	0.01	0.04	266	0.02	0.04	112	0.01	0.05	342	0.01	0.03	108

Table IX-5 (Continued)
2012-2013 Station Observed and CAMx Simulated MATES IV Annual Average Concentrations

Compound	Units	Huntington Park			North Long Beach			Central Los Angeles			Pico Rivera		
		Obs	Model	PA	Obs	Model	PA	Obs	Model	PA	Obs	Model	PA
1,3-Butadiene	ppb	0.15	0.18	21	0.09	0.05	-48	0.11	0.05	-52	0.09	0.04	-57
Acetaldehyde	ppb	1.04	0.97	-7	0.67	0.85	27	0.94	1.05	11	1.25	1.00	-20
As (2.5)	ng/m ³	N/A	5.21	N/A	N/A	0.98	N/A	N/A	0.64	N/A	N/A	1.14	N/A
As (TSP)	ng/m ³	0.56	6.11	997	0.41	1.45	256	0.64	1.45	72	0.57	1.77	209
Benzene	ppb	0.53	0.33	-38	0.33	0.30	-10	0.40	0.37	-8	0.35	0.27	-21
Cd (2.5)	ng/m ³	N/A	0.40	N/A	N/A	0.49	N/A	N/A	0.22	N/A	N/A	0.27	N/A
Cd (TSP)	ng/m ³	N/A	0.62	N/A	N/A	0.64	N/A	N/A	0.40	N/A	N/A	0.46	N/A
Cr6 (TSP)	ng/m ³	0.07	0.28	289	0.04	0.19	334	0.07	0.24	247	0.05	0.17	251
EC ₁₀	μg/m ³	1.65	1.98	20	1.29	1.72	34	1.67	2.17	30	1.87	1.69	-10
EC _{2.5}	μg/m ³	1.30	1.70	31	0.91	1.45	59	1.23	1.81	47	1.39	1.30	-6
Formaldehyde	ppb	2.73	1.92	-30	1.86	1.76	-6	2.93	2.11	-28	2.81	1.81	-36
Methylene Chloride	ppb	0.24	0.33	37	0.24	0.23	-1	0.32	0.42	0.32	0.17	0.23	38
Naphthalene	ppb				0.015	0.011	-27	0.029	0.014	-51			
Ni (2.5)	ng/m ³	N/A	4.03	N/A	N/A	6.92	N/A	N/A	2.76	N/A	N/A	2.77	N/A
Ni (TSP)	ng/m ³	5.40	5.68	5	3.65	8.59	136	3.37	4.57	36	4.48	4.11	-8
Pb (2.5)	ng/m ³	N/A	3.75	N/A	N/A	2.26	N/A	N/A	2.14	N/A	N/A	1.80	N/A
Pb (TSP)	ng/m ³	9.46	7.66	-19	4.47	4.99	12	7.34	6.17	-16	5.89	4.69	-20
p-Dichlorobenzene	ppb	0.03	0.07	180	0.01	0.06	321	0.03	0.09	203	0.01	0.06	293
Perchloroethylene	ppb	0.04	0.11	165	0.02	0.10	390	0.03	0.09	203	0.03	0.08	192
Trichloroethylene	ppb	0.02	0.06	300	0.01	0.07	550	0.03	0.04	35	0.02	0.03	120

Table IX-5 (Continued)
2012-2013 Station Observed and CAMx Simulated MATES IV Annual Average Concentrations

Compound	Units	Rubidoux			West Long Beach		
		Obs	Model	PA	Obs	Model	PA
1,3-Butadiene	ppb	0.08	0.02	-77	0.11	0.05	-55
Acetaldehyde	ppb	0.84	0.97	16	0.75	0.87	16
As (2.5)	ηg/m ³	N/A	0.38	N/A	N/A	0.57	N/A
As (TSP)	ηg/m ³	0.76	0.62	-18	0.50	2.15	333
Benzene	ppb	0.28	0.21	-24	0.36	0.41	15
Cd (2.5)	ηg/m ³	N/A	0.15	N/A	N/A	1.04	N/A
Cd (TSP)	ηg/m ³	N/A	0.44	N/A	N/A	1.24	N/A
Cr6 (TSP)	ηg/m ³	0.04	0.12	180	0.03	0.19	471
EC ₁₀	μg/m ³	1.48	1.26	-14	1.78	2.15	21
EC _{2.5}	μg/m ³	1.11	0.98	-12	1.13	1.88	67
Formaldehyde	ppb	2.00	1.76	-12	1.55	2.12	37
Methylene Chloride	ppb	2.11	0.13	-94	0.24	0.22	-10
Naphthalene	ppb	0.017	0.011	-35			
Ni (2.5))	ηg/m ³	N/A	2.18	N/A	N/A	13.29	N/A
Ni (TSP)	ηg/m ³	3.35	3.17	-5	3.73	15.42	313
Pb (2.5)	ηg/m ³	N/A	1.16	N/A	N/A	3.04	N/A
Pb (TSP)	ηg/m ³	6.21	3.70	-41	5.83	5.74	-1
p-Dichlorobenzene	ppb	0.02	0.04	123	0.01	0.06	417
Perchloroethylene	ppb	0.02	0.05	179	0.02	0.09	355
Trichloroethylene	ppb	0.01	0.03	133	0.03	0.07	127

Table IX-6a
MATES IV 2012-2013 EC_{2.5} Model Performance

Location	EC _{2.5} Observed (µg/m ³)	Samples	Modeled Sampling Days (µg/m ³)	Prediction Accuracy	Mean Bias (µg/m ³)	Mean Error (µg/m ³)	Normalized Mean Bias	Normalized Mean Error
Anaheim	0.90	59	1.10	22	0.20	0.56	1.08	1.24
Burbank	1.32	58	1.19	-9	-0.12	0.64	0.43	0.73
Compton	1.06	61	1.48	39	0.42	0.76	1.52	1.64
Inland Valley San Bernardino.	1.38	59	1.13	-18	-0.25	0.46	-0.03	0.31
Huntington Park	1.30	58	1.70	31	0.40	0.67	0.85	0.93
Long Beach	0.91	60	1.45	59	0.53	0.80	2.18	2.27
Central L.A.	1.23	60	1.81	47	0.58	0.70	0.91	0.96
Pico Rivera	1.39	60	1.30	-6	-0.09	0.48	0.26	0.52
Rubidoux	1.11	61	0.98	-12	-0.13	0.40	0.12	0.44
West Long Beach	1.13	61	1.88	67	0.75	1.00	2.10	2.17
All Stations	1.17	597	1.40	20	0.23	0.65	0.95	1.13

Table IX-6b
MATES IV 2012-2013 EC₁₀ Model Performance

Location	EC _{2.5} Observed (µg/m ³)	Samples	Modeled Sampling Days (µg/m ³)	Prediction Accuracy	Mean Bias (µg/m ³)	Mean Error (µg/m ³)	Normalized Mean Bias	Normalized Mean Error
Anaheim	1.17	61	1.39	18	0.22	0.49	0.44	0.54
Burbank	1.74	57	1.43	-18	-0.31	0.60	-0.03	0.34
Compton	1.50	57	1.81	21	0.32	0.66	0.58	0.68
Inland Valley San Bernardino.	1.74	61	1.42	-18	-0.32	0.47	-0.08	0.27
Huntington Park	1.65	52	1.98	20	0.33	0.54	0.36	0.43
Long Beach	1.29	58	1.72	34	0.44	0.59	0.61	0.68
Central L.A.	1.67	60	2.17	30	0.50	0.61	0.46	0.51
Pico Rivera	1.87	50	1.69	-10	-0.18	0.44	-0.02	0.24
Rubidoux	1.48	59	1.26	-14	-0.22	0.44	-0.06	0.29
West Long Beach	1.78	51	2.15	21	0.37	0.86	0.53	0.69
All Stations	1.58	566	1.69	7	0.11	0.57	0.28	0.47

Table IX-7
2012-2013 Simulation Performance Statistics for Benzene

Location	Observed (ppb)	Samples	Predicted (ppb)	PA	Mean Bias (ppb)	Mean Error (ppb)	Normalized Mean Bias	Normalized Mean Error
Anaheim	0.33	51	0.28	-14	-0.05	0.16	0.24	0.58
Burbank	0.46	55	0.28	-38	-0.17	0.22	-0.18	0.39
Compton	0.50	57	0.28	-43	-0.21	0.26	-0.09	0.40
Inland Valley San Bernardino	0.29	53	0.22	-24	-0.07	0.09	-0.13	0.28
Huntington Park	0.53	52	0.33	-38	-0.20	0.22	-0.21	0.30
North Long Beach	0.33	54	0.30	-10	-0.03	0.10	0.07	0.31
Central L.A.	0.40	51	0.37	-8	-0.03	0.12	0.05	0.30
Pico Rivera	0.35	57	0.27	-21	-0.07	0.12	-0.03	0.33
Rubidoux	0.28	51	0.21	-24	-0.07	0.10	-0.10	0.32
West Long Beach	0.36	57	0.41	15	0.05	0.20	0.77	0.95

Table IX-8
Comparative Simulation Performance Statistics for EC_{2.5}

Location	MATES IV (2012-2013)					MATES III (2005)				
	Observed Days (µg/m ³)	Modeled Sampling Days (µg/m ³)	PA	Bias (µg/m ³)	Mean Error (µg/m ³)	Observed Days (µg/m ³)	Modeled Sampling Days (µg/m ³)	PA	Bias (µg/m ³)	Mean Error (µg/m ³)
Anaheim	0.90	1.10	22	0.20	0.56	1.41	1.35	-4	-0.06	0.54
Burbank	1.32	1.19	-9	-0.12	0.64	2.04	1.03	-50	-1.02	1.11
Compton	1.06	1.48	39	0.42	0.76	1.76	1.88	7	0.12	0.61
Inland Valley San Bernardino	1.38	1.13	-18	-0.25	0.46	2.18	1.77	-19	-0.41	0.91
Huntington Park	1.30	1.70	31	0.40	0.67	-	-	-	-	-
North Long Beach	0.91	1.45	59	0.53	0.80	1.40	1.71	21	0.30	0.61
Central L.A.	1.23	1.81	47	0.58	0.70	1.93	2.04	6	0.11	0.76
Pico Rivera	1.39	1.30	-6	-0.09	0.48	-	-	-	-	-
Rubidoux	1.11	0.98	-12	-0.13	0.40	1.69	1.32	-22	-0.38	0.74
West Long Beach	1.13	1.88	67	0.75	1.00	2.07	2.14	3	0.07	0.79

Table IX-9
Comparative Simulation Performance Statistics for Benzene

Location	MATES IV (2012-2013)					MATES III (2005)				
	Observed Days (ppb)	Modeled Sampling Days (ppb)	PA	Bias (ppb)	Mean Error (ppb)	Observed Days (ppb)	Modeled Sampling Days (ppb)	PA	Bias (ppb)	Mean Error (ppb)
Anaheim	0.33	0.28	-14	-0.05	0.16	0.44	0.50	15	0.06	0.22
Burbank	0.46	0.28	-38	-0.17	0.22	0.71	0.47	-34	-0.24	0.34
Compton	0.50	0.28	-43	-0.21	0.26	0.80	0.57	-29	-0.23	0.39
Inland Valley San Bernardino.	0.29	0.22	-24	-0.07	0.09	0.49	0.44	-11	-0.05	0.17
Huntington Park	0.53	0.33	-38	-0.20	0.22					
North Long Beach	0.33	0.30	-10	-0.03	0.10	0.50	0.57	13	0.07	0.21
Central L.A.	0.40	0.37	-8	-0.03	0.12	0.59	0.69	16	0.10	0.25
Pico Rivera	0.35	0.27	-21	-0.07	0.12					
Rubidoux	0.28	0.21	-24	-0.07	0.10	0.44	0.44	2	0.01	0.16
West Long Beach	0.36	0.41	15	0.05	0.20	0.53	0.60	14	0.07	0.21

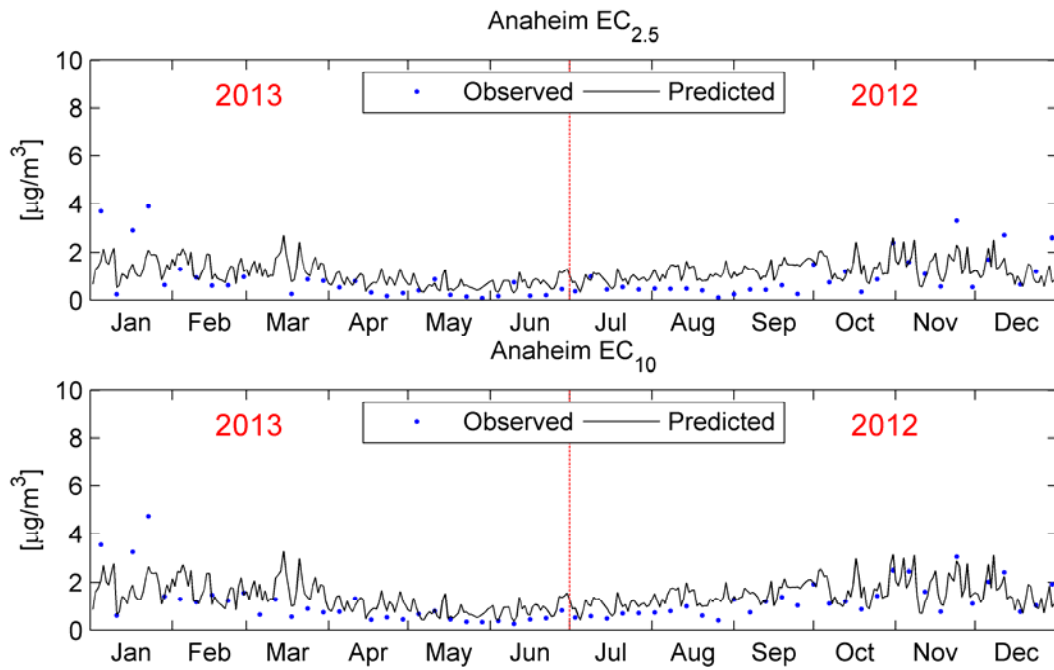


Figure IX-9a
 EC_{2.5} and EC₁₀ Time Series: Simulated vs. Measured at Anaheim.

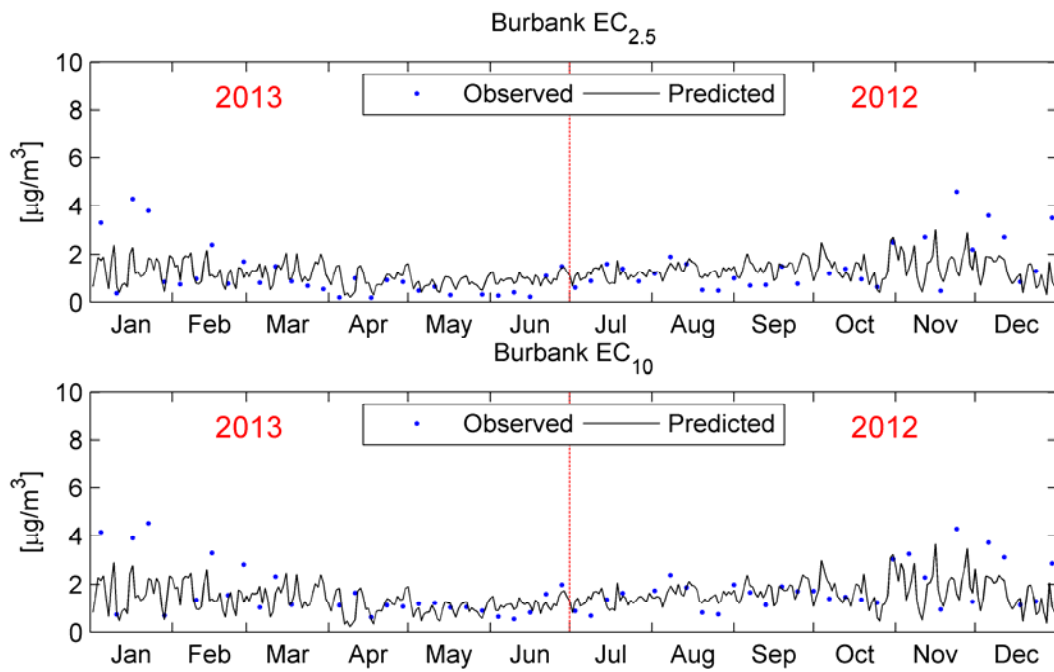


Figure IX-9b
 Same as Figure IX-9a except Burbank.

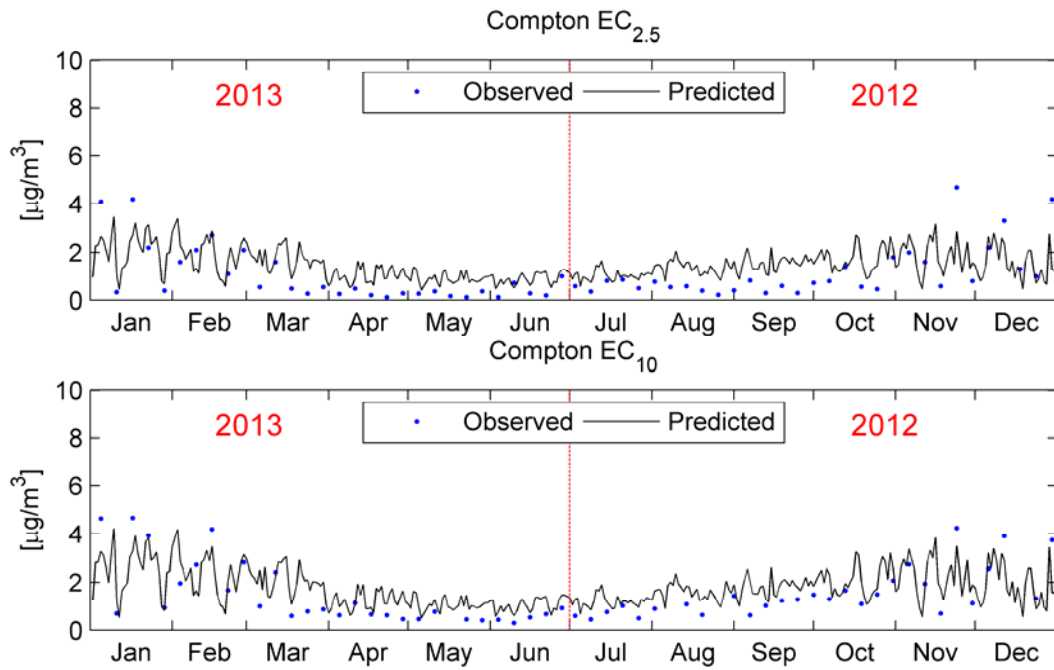


Figure IX-9c
Same as Figure IX-9a except Compton.

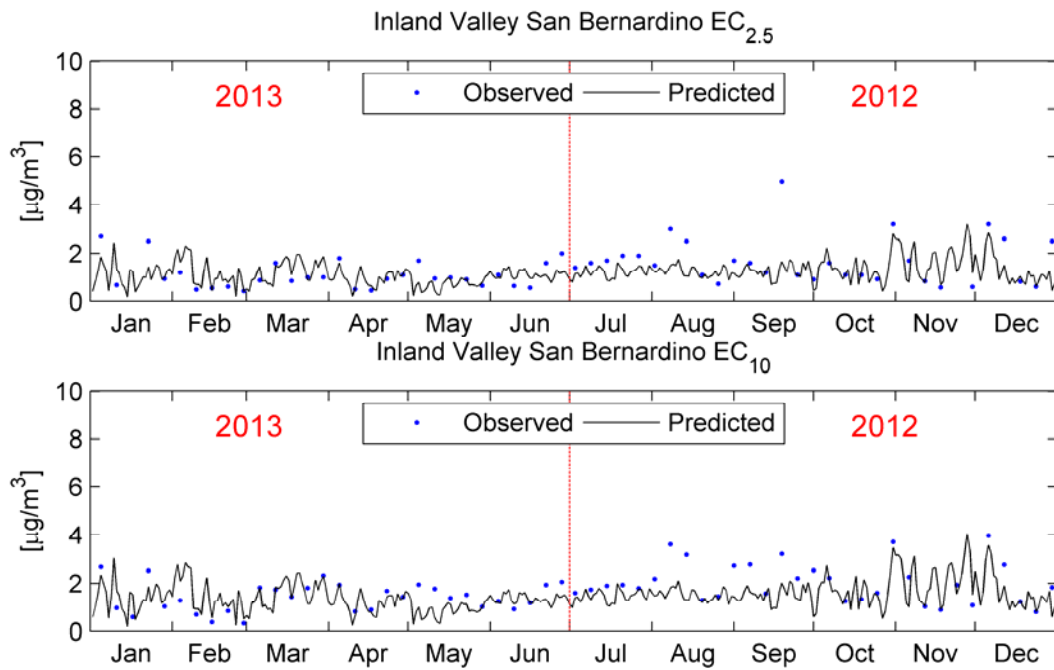


Figure IX-9d
Same as Figure IX-9a except Inland Valley San Bernardino.

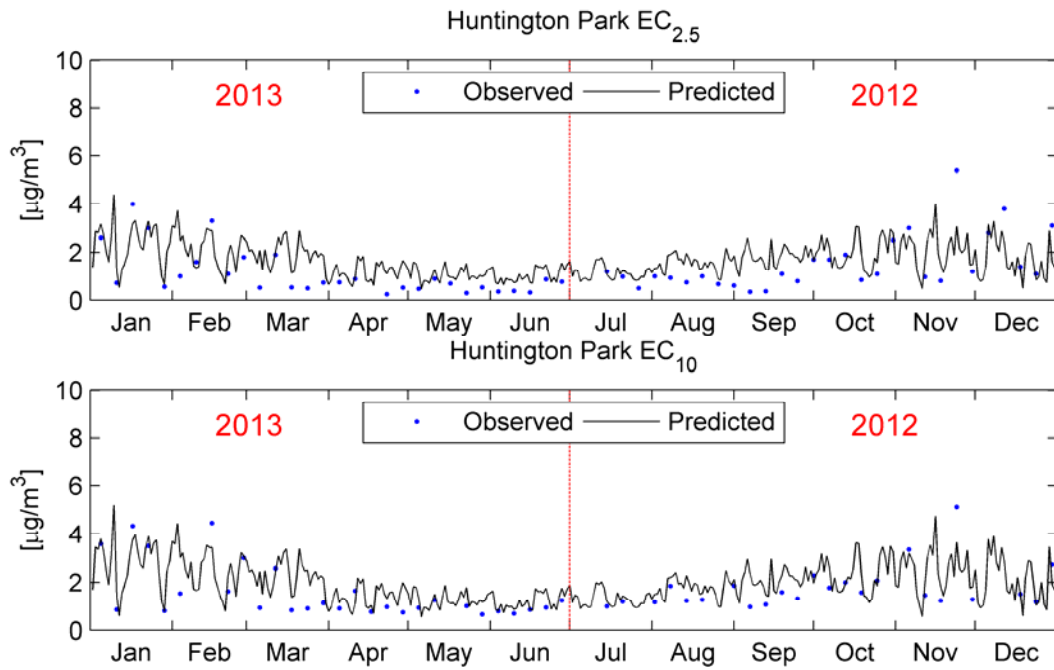


Figure IX-9e
Same as Figure IX-9a except Huntington Park

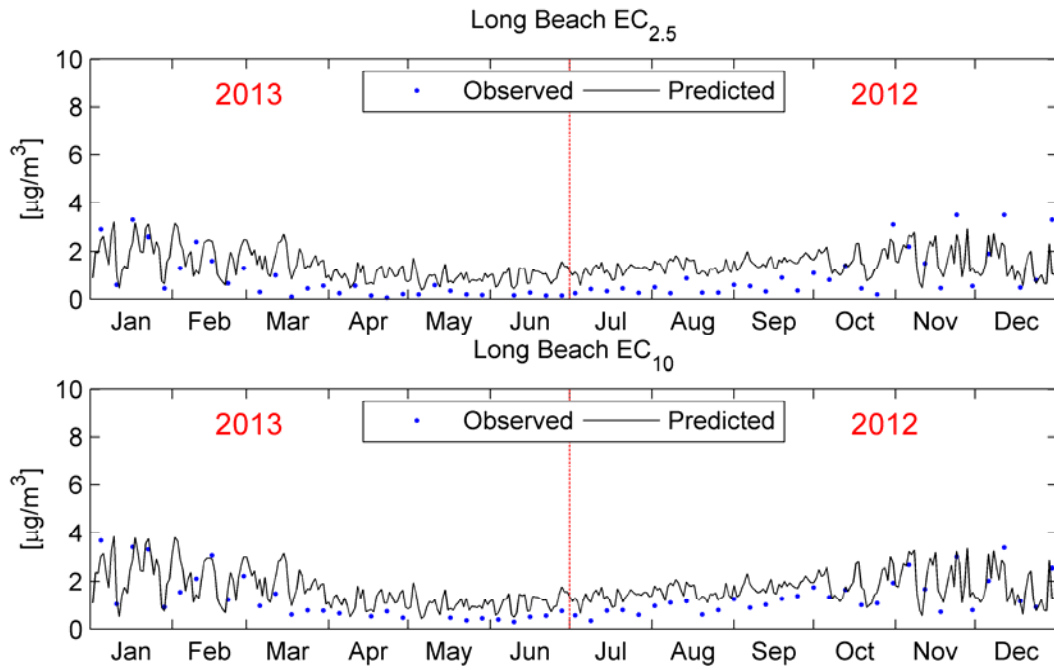


Figure IX-9f
Same as Figure IX-9a except North Long Beach.

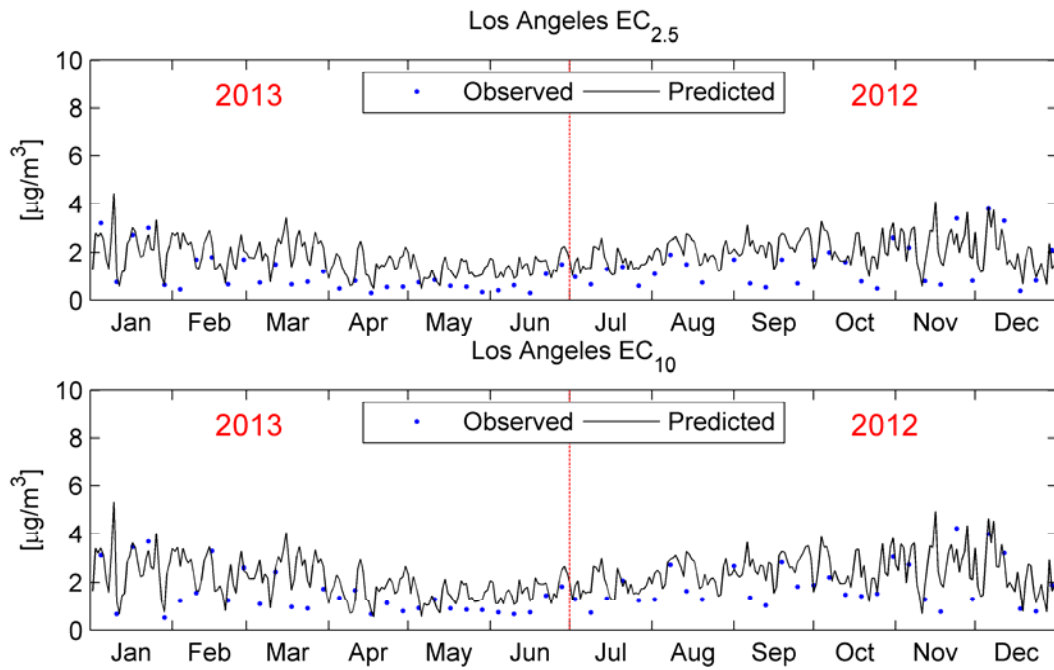


Figure IX-9g
Same as Figure IX-9a except Central Los Angeles.

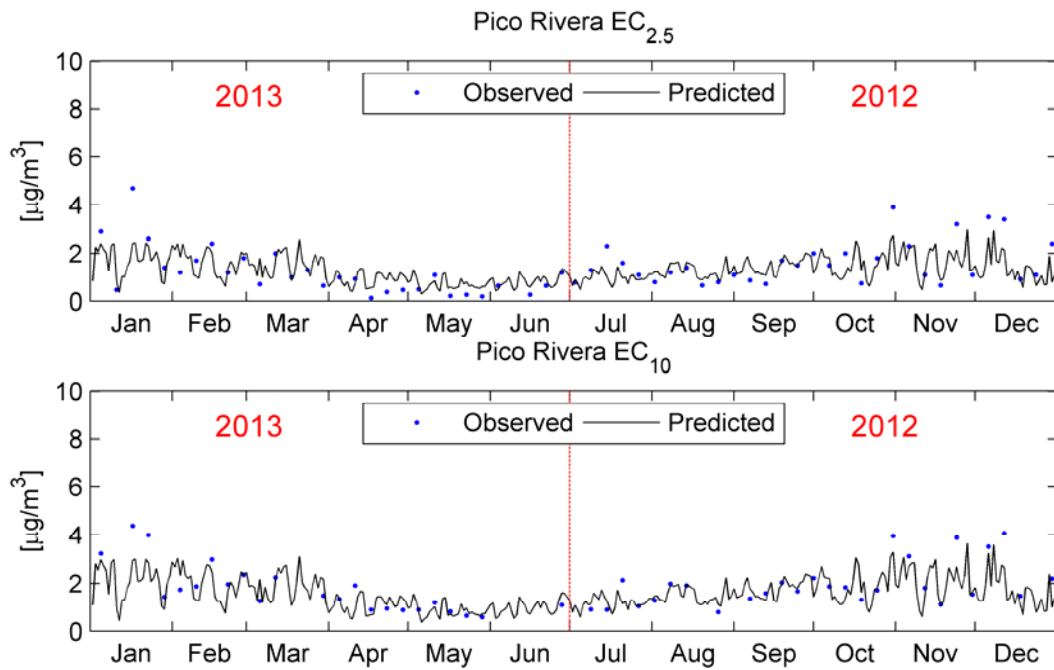


Figure IX-9h
Same as Figure IX-9a except Pico Rivera.

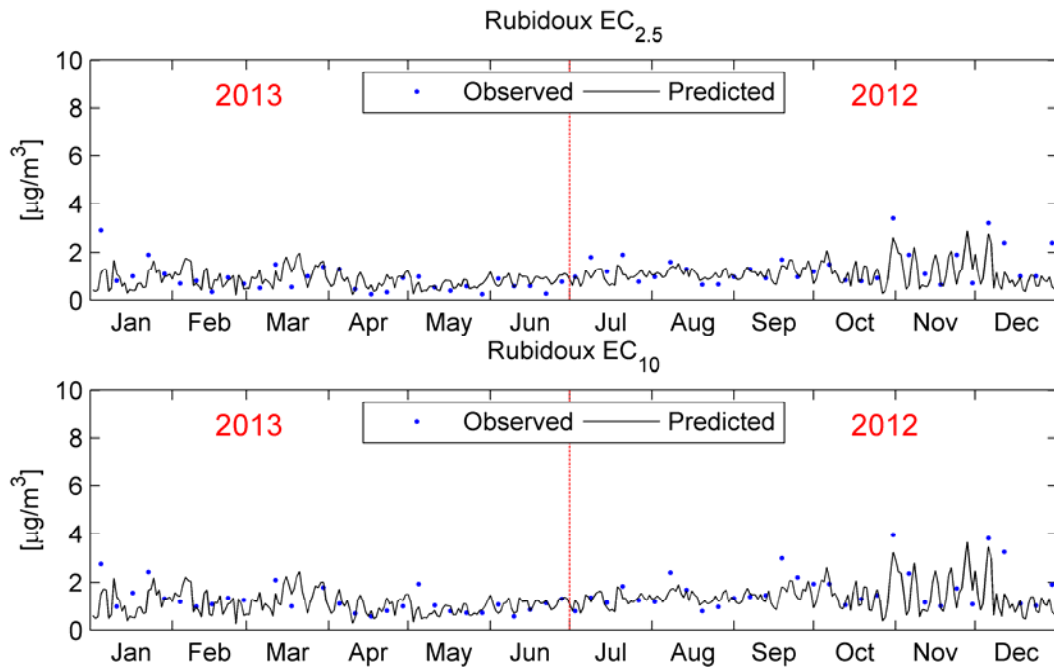


Figure IX-9i
Same as Figure IX-9a except Rubidoux.

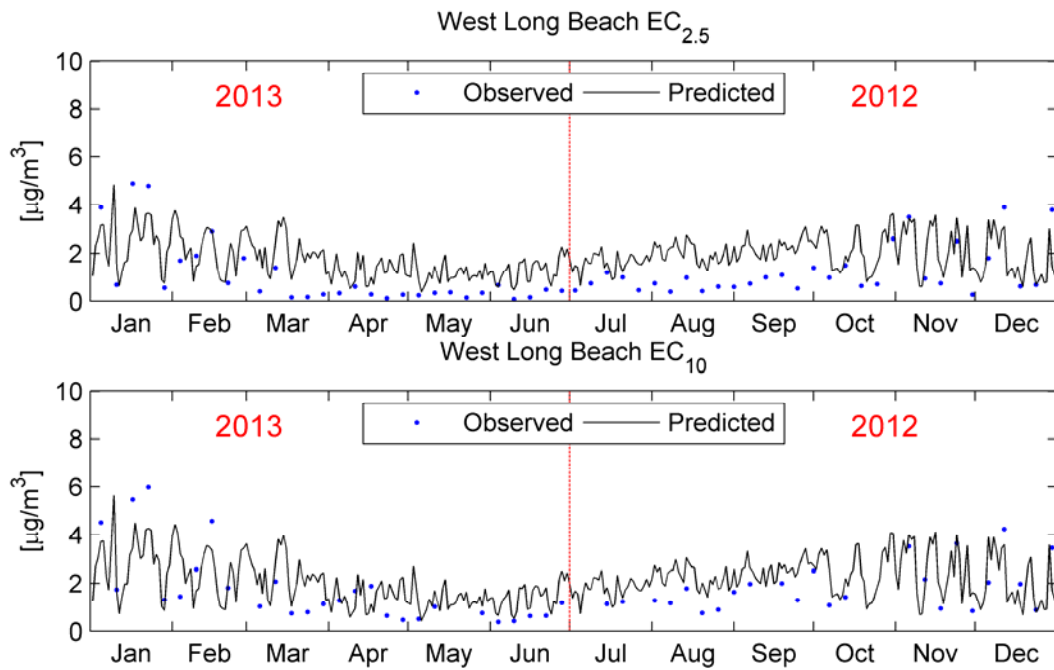


Figure IX-9j
Same as Figure IX-9a except West Long Beach.

Table IX-10

Toxic Compounds Simulated and Measured Eight-Station Annual Average Concentrations
For 2012-2013 MATES IV and 2005 MATES III periods using CAMX RTRAC

Compound	Units	2012-2013 MATES IV		2005 MATES III	
		Measured Annual Average	Simulated Annual Average	Measured Annual Average	Simulated Annual Average
EC _{2.5}	µg/m ³	0.96	1.39	1.81	1.69
EC ₁₀	µg/m ³	1.33	1.68	2.05	2.15
Cr 6 (TSP)	ng/m ³	0.05	0.18	0.23	0.21
As (2.5)	ng/m ³	N/A	0.66	0.49	1.07
As (TSP)	ng/m ³	0.44	1.07	0.68	2.57
Cd (2.5)	ng/m ³	N/A	0.38	1.49	0.59
Cd (TSP)	ng/m ³	0.13	0.56	1.53	0.88
Ni (2.5))	ng/m ³	N/A	4.58	4.44	4.88
Ni (TSP)	ng/m ³	2.98	6.64	5.40	7.55
Pb (2.5)	ng/m ³	N/A	2.10	5.32	2.53
Pb (TSP)	ng/m ³	4.69	5.26	10.64	8.68
Benzene	ppb	0.33	0.29	0.56	0.54
Perchloroethylene	ppb	0.03	0.08	0.06	0.10
p-Dichlorobenzene	ppb	0.02	0.04	0.04	0.08
Methylene Chloride	ppb	0.46	0.24	0.32	0.33
Trichloroethylene	ppb	0.02	0.04	0.03	0.03
1,3-Butadiene	ppb	0.09	0.04	0.11	0.09
Formaldehyde	ppb	1.78	1.91	3.52	3.26
Acetaldehyde	ppb	0.71	0.95	1.60	1.11
Naphthalene	ppb	0.02*	0.01	0.02*	0.01

* Three station average

Diesel (PM2.5)

2012/13 Annual Average Concentrations

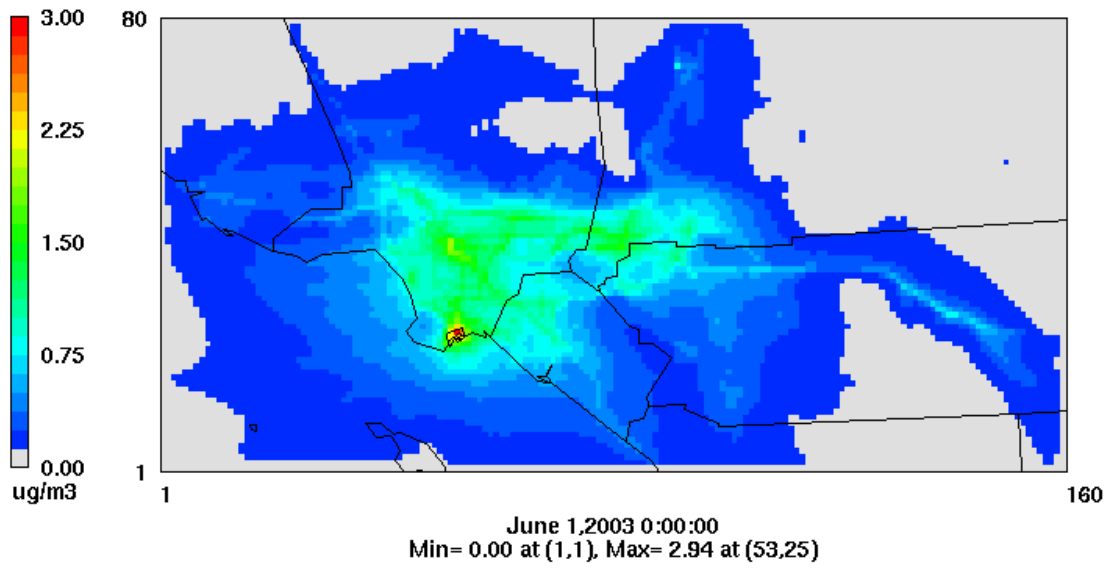


Figure IX-10a

CAMx simulated 2012 annual average Diesel PM_{2.5}.

Elemental Carbon (PM2.5)

2012/13 Annual Average Concentrations

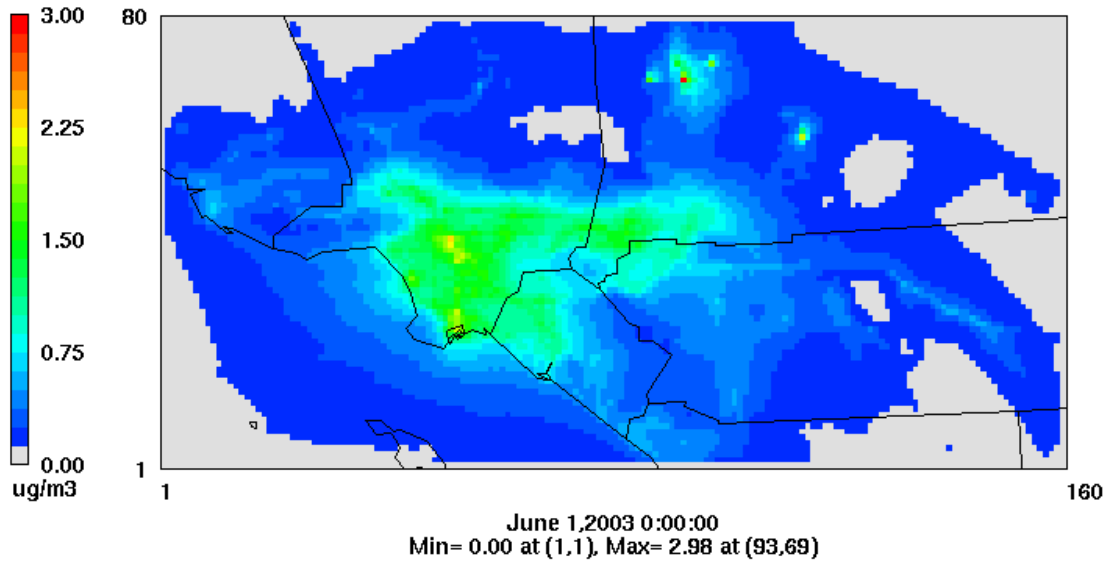


Figure IX-10b

CAMx simulated 2012 annual average Elemental Carbon PM_{2.5}.

On-Road Diesel (PM_{2.5})

2012/13 Annual Average Concentrations

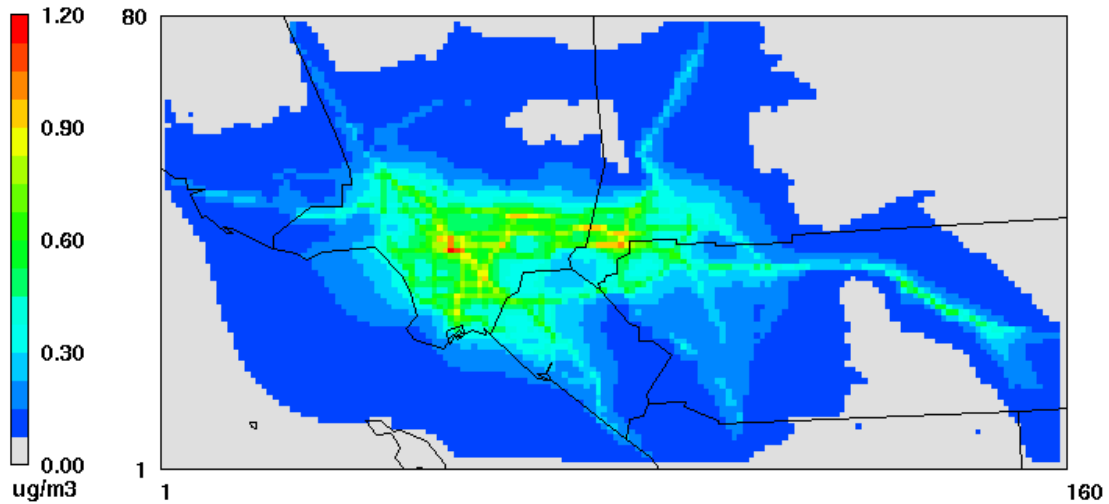


Figure IX-10c

CAMx simulated 2012 annual average On-Road Diesel PM_{2.5}.

Off-Road Diesel (PM_{2.5})

2012/13 Annual Average Concentrations

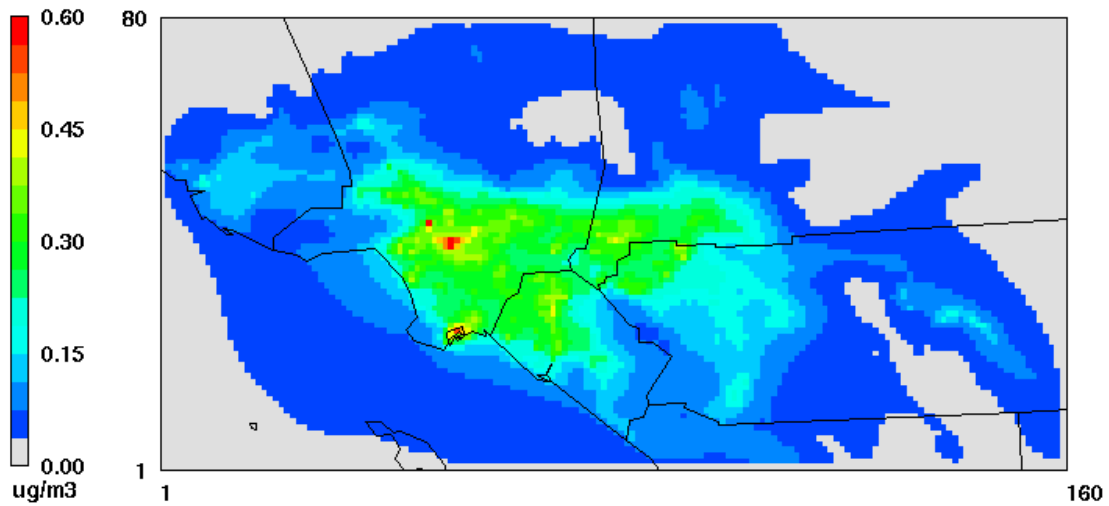


Figure IX-10d

CAMx simulated 2012 annual average Off-Road Diesel PM_{2.5}.

Diesel from OGV and Commercial Boats (PM2.5)

2012 Annual Average Concentrations
v=average.draft.plot

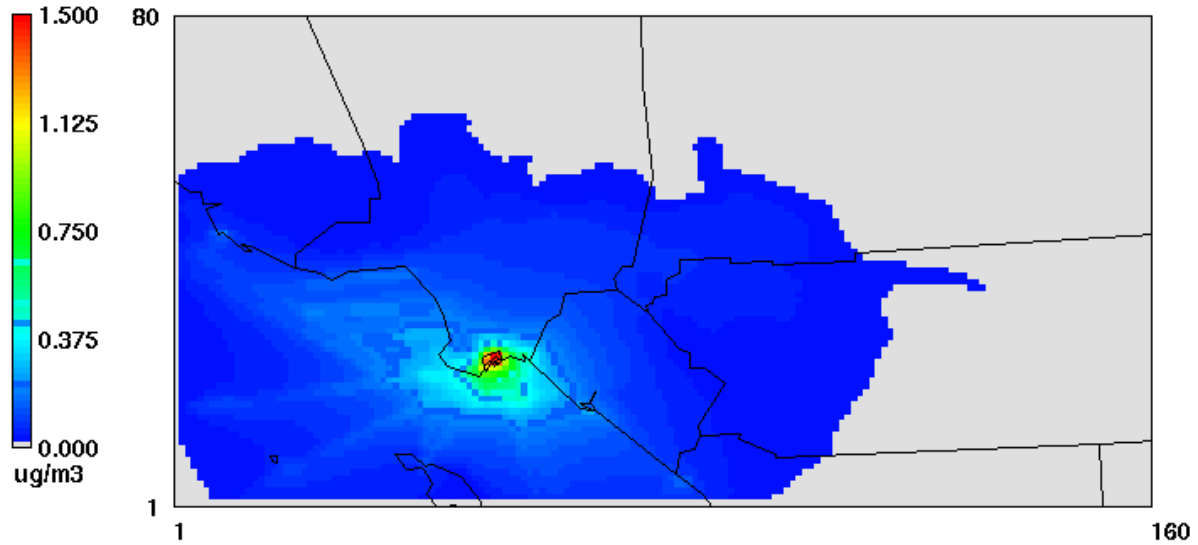


Figure IX-10e

CAMx simulated 2012 annual average Diesel from Ships PM_{2.5}.

Diesel from Trains (PM2.5)

2012/13 Annual Average Concentrations

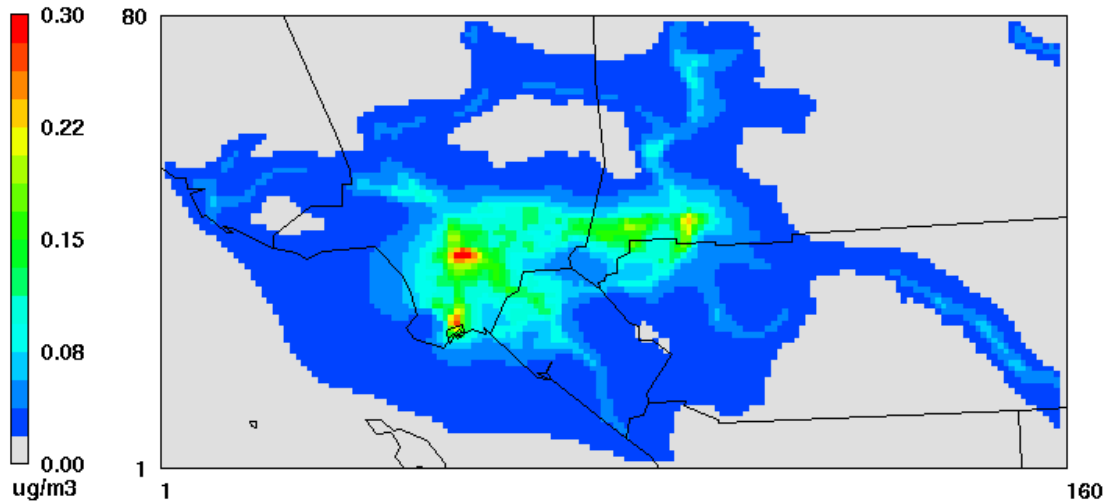


Figure IX-10f

CAMx simulated 2012 annual average Diesel from Trains PM_{2.5}.

Stationary Diesel (PM_{2.5})

2012/13 Annual Average Concentrations

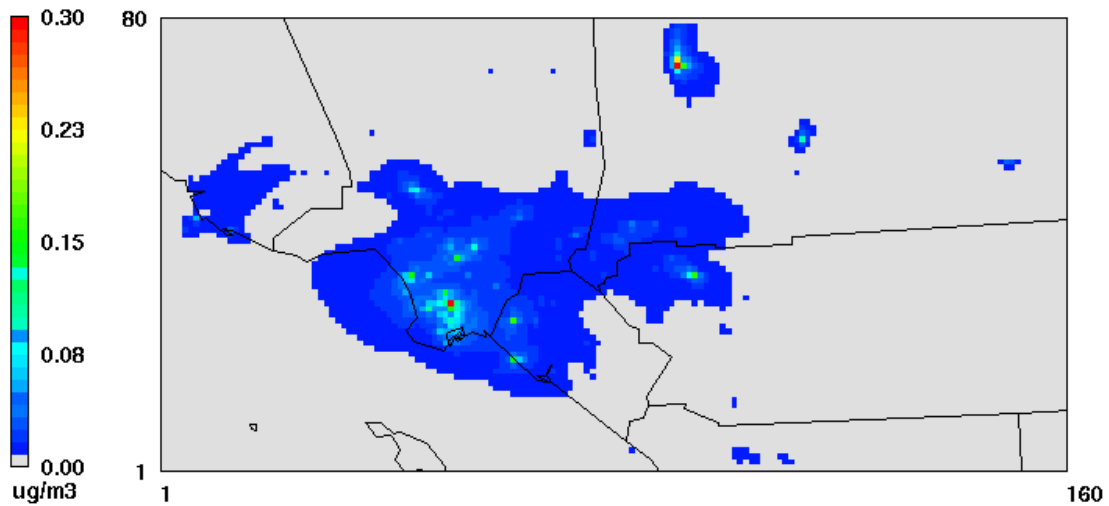


Figure IX-10g

CAMx simulated 2012 annual average Diesel from Stationary Sources PM_{2.5}.

Benzene

2012 Annual Average Concentrations
w=average.dgas_CMAQ.plot

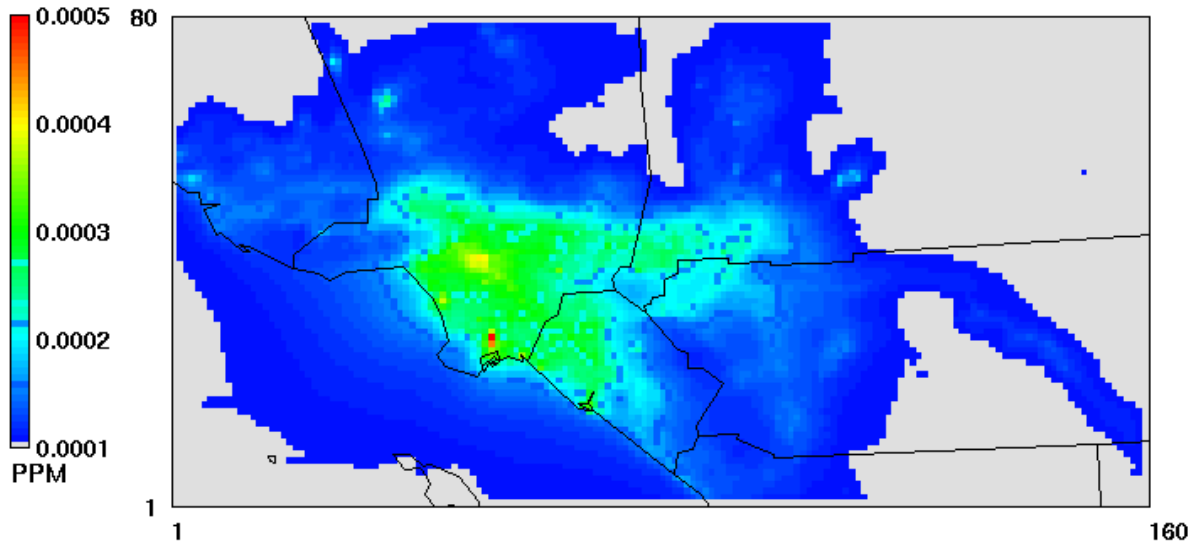


Figure IX-10h

CAMx simulated 2012 annual average Benzene.

1,3Butadiene

2012 Annual Average Concentrations
w=average.dgas_CMAQ.plot

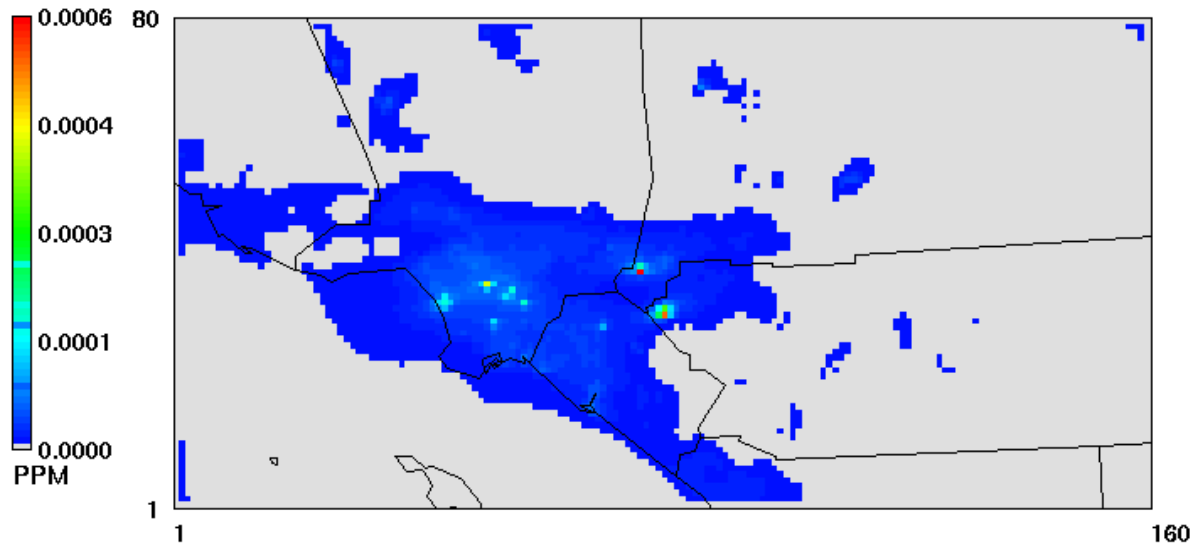


Figure IX-10i

CAMx simulated 2012 annual average 1,3-Butadiene.

Total Formaldehyde

2012 Annual Average Concentrations
w=average.dgas_CMAQ.plot

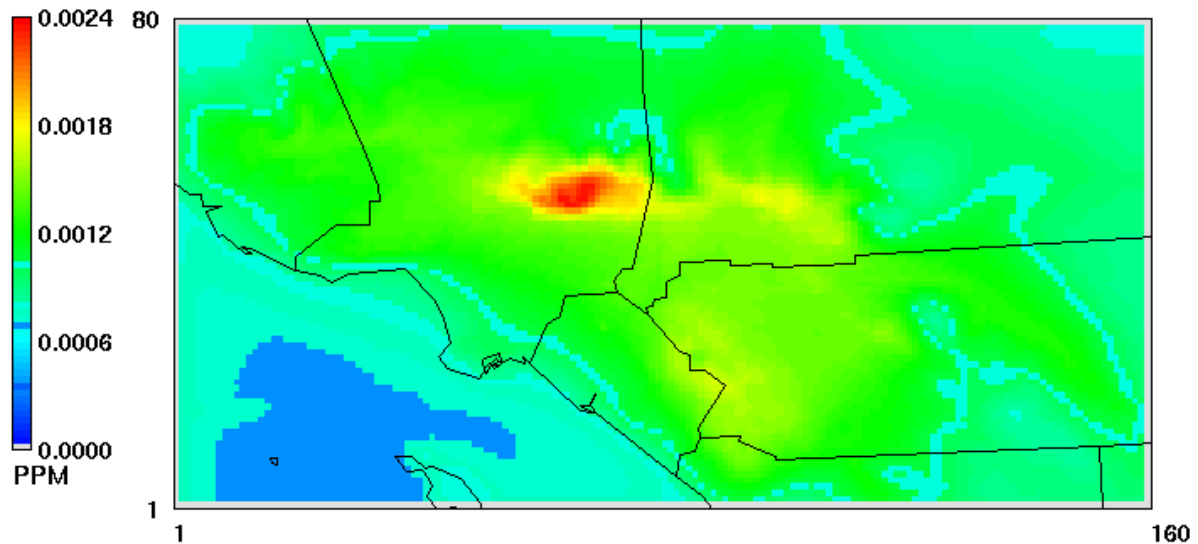


Figure IX-10j

CAMx simulated 2012 annual average for Total Formaldehyde.

Total Acetaldehyde

2012 Annual Average Concentrations
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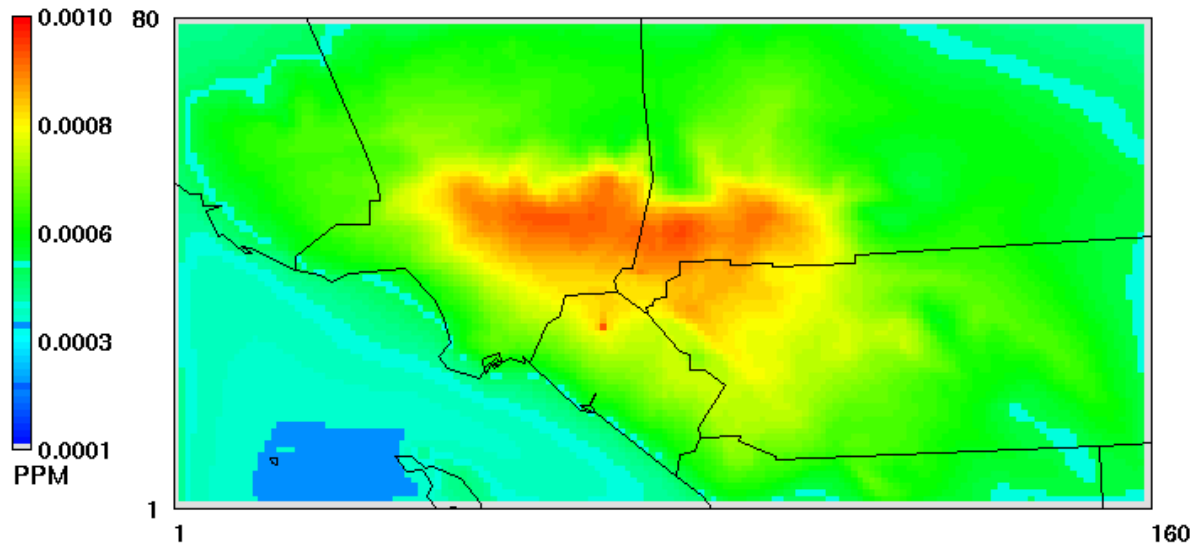


Figure IX-10k
CAMx simulated 2012 annual average Acetaldehyde.

Arsenic (PM_{2.5})

2012 Annual Average Concentrations
v=average.draft.plot

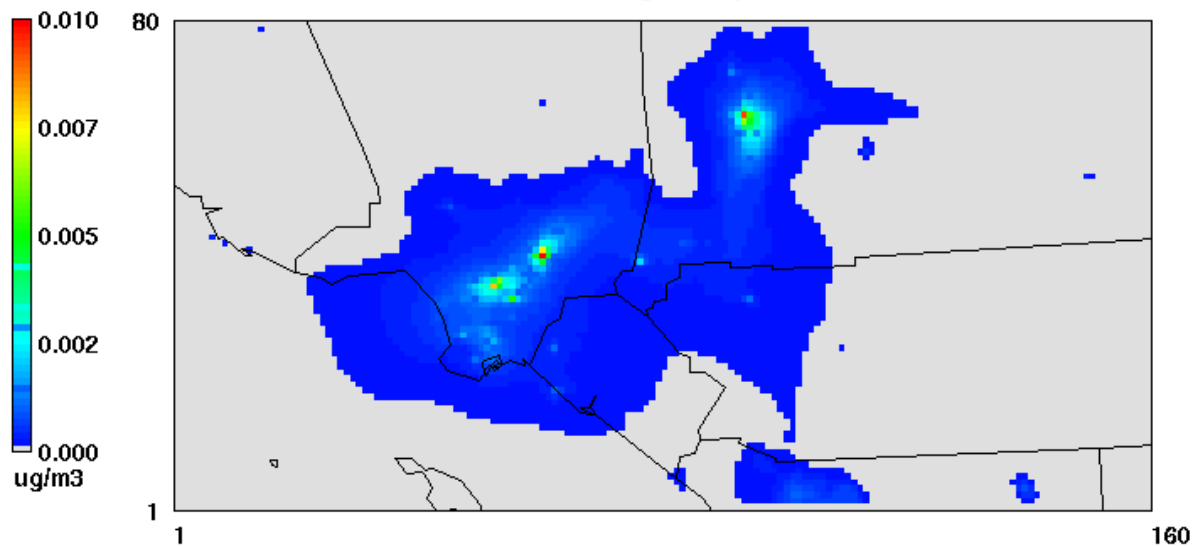


Figure IX-10l
CAMx simulated 2012 annual average Arsenic PM_{2.5}.

Cadmium (PM2.5)

2012 Annual Average Concentrations
v=average.draft.plot

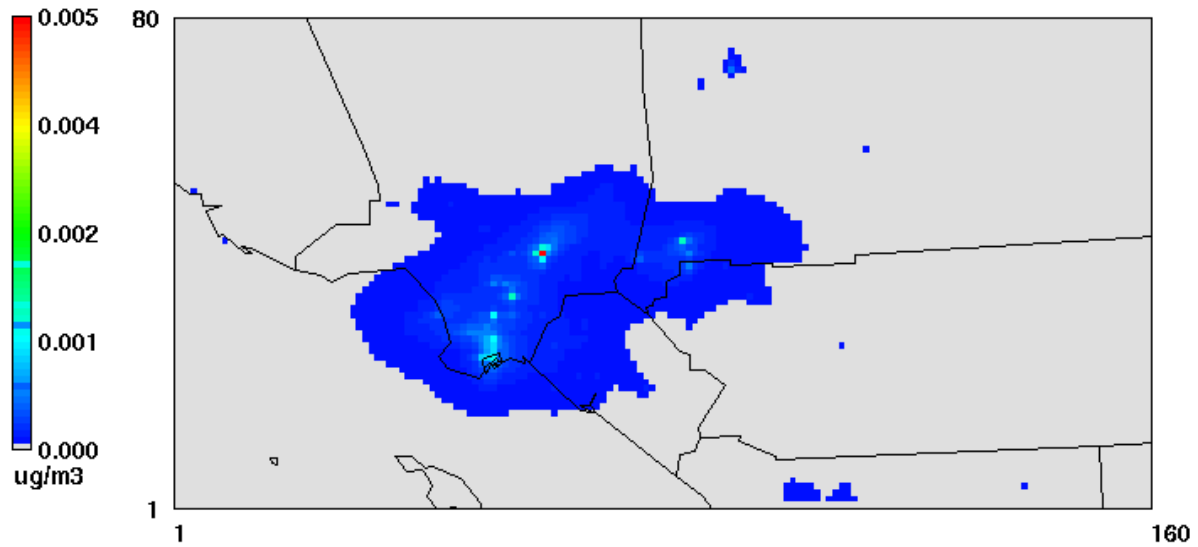


Figure IX-10m
CAMx simulated 2012 annual average Cadmium PM_{2.5}.

Hexavalent Chromium (PM2.5)

2012 Annual Average Concentrations
v=average.draft.plot

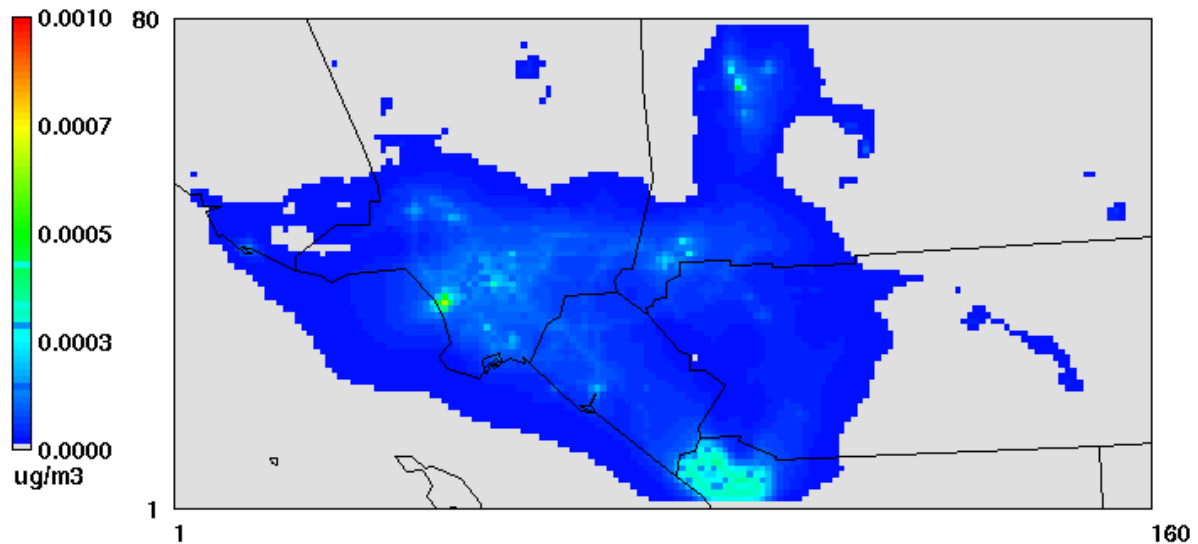


Figure IX-10n
CAMx simulated 2012 annual average Chromium PM_{2.5}.

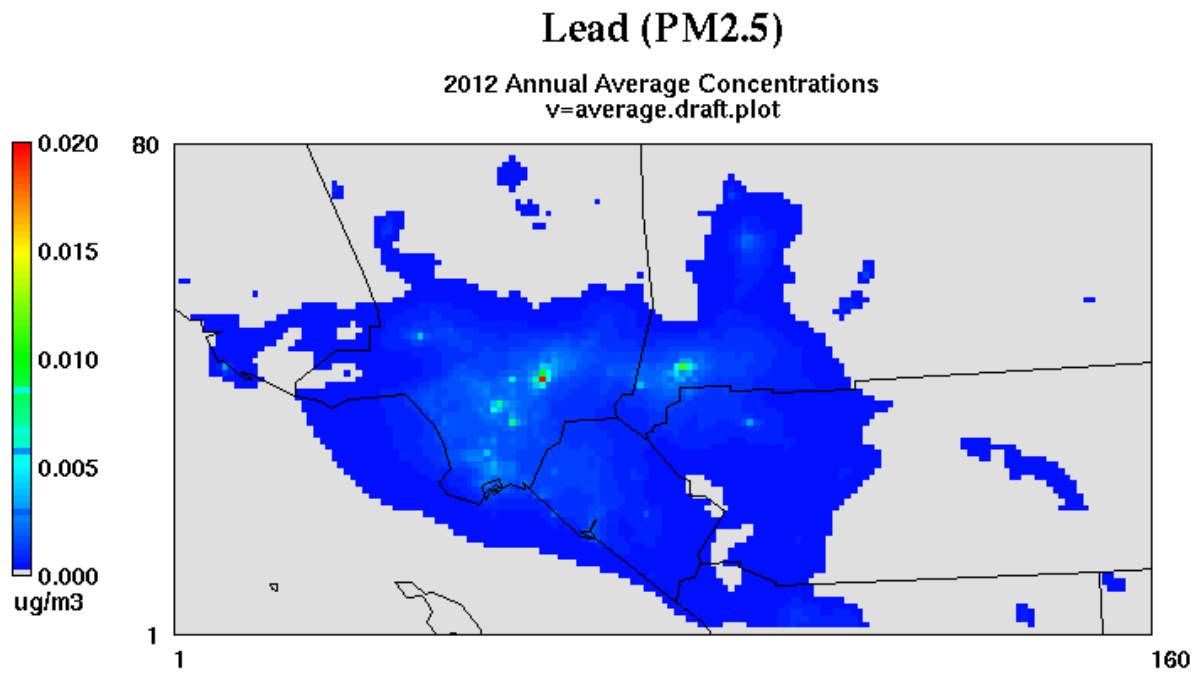


Figure IX-10o
CAMx simulated 2012 annual average Lead PM_{2.5}.

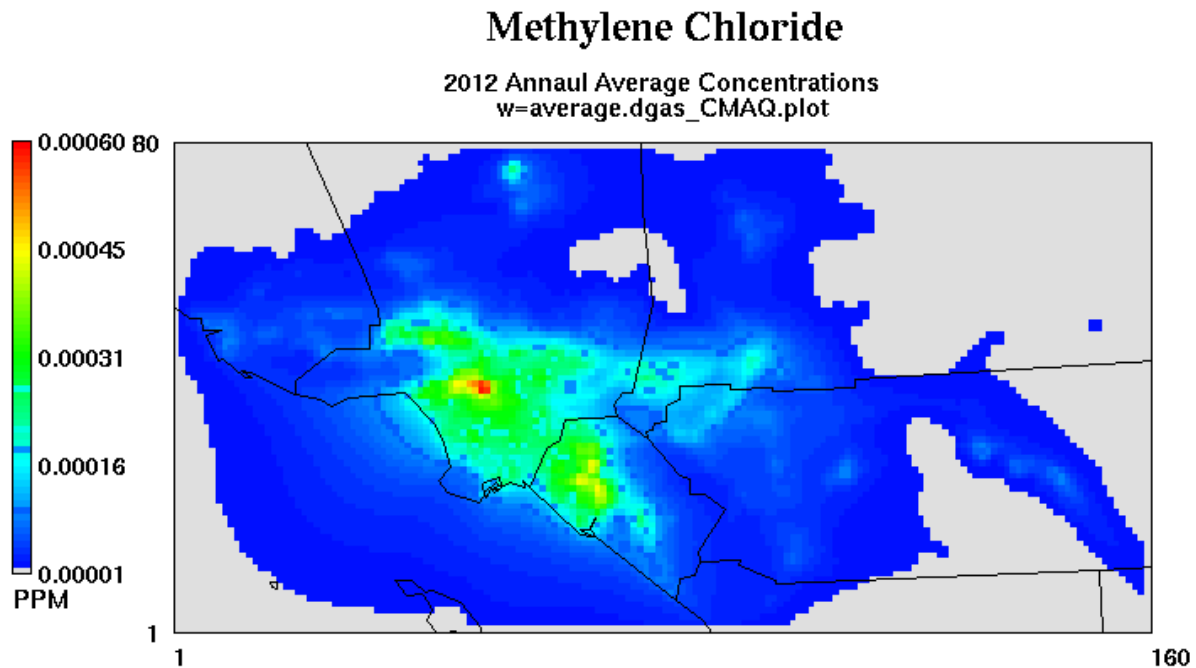


Figure IX-10p
CAMx simulated 2012 annual average Methylene Chloride.

Naphthalene

2012 Annual Average Concentrations
w=average.dgas_CMAQ.plot

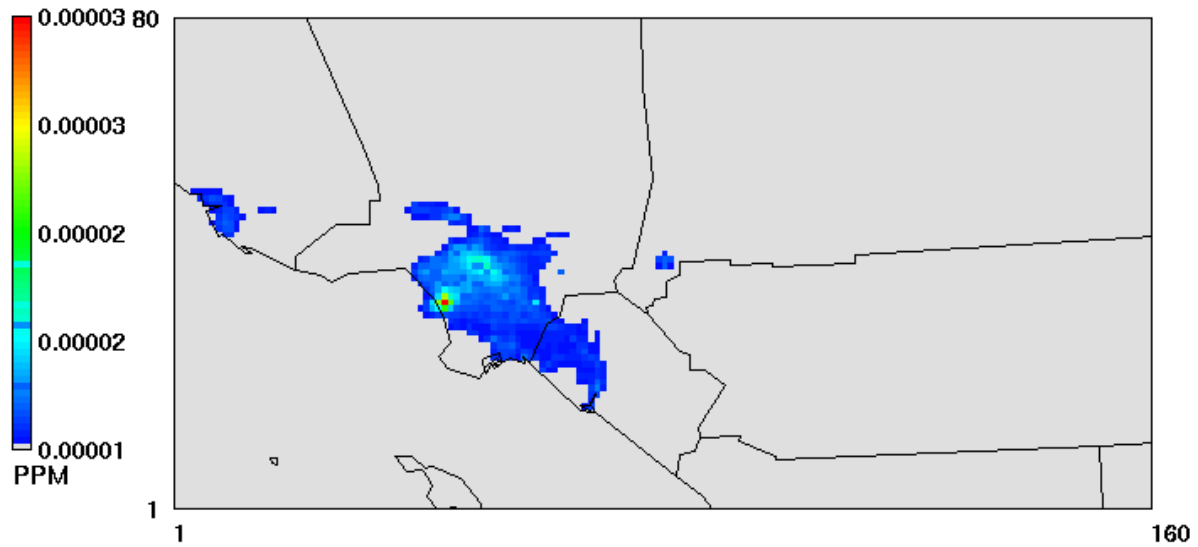


Figure IX-10q
CAMx simulated 2012 annual average Naphthalene.

Nickel (PM2.5)

2012 Annual Average Concentrations
v=average.draft.plot

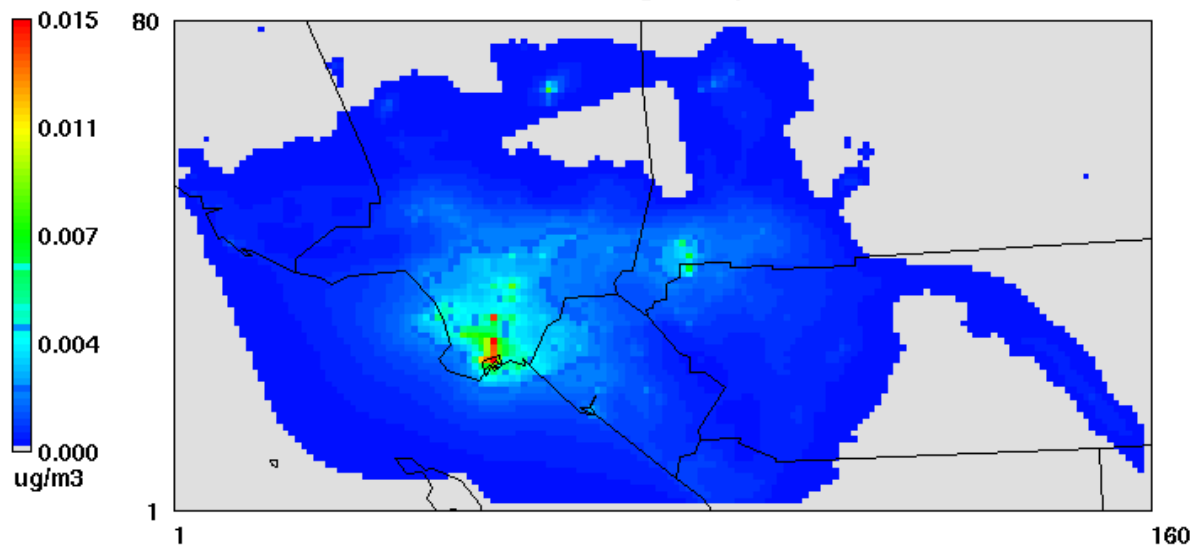


Figure IX-10r
CAMx simulated 2012 annual average Nickel PM_{2.5}.

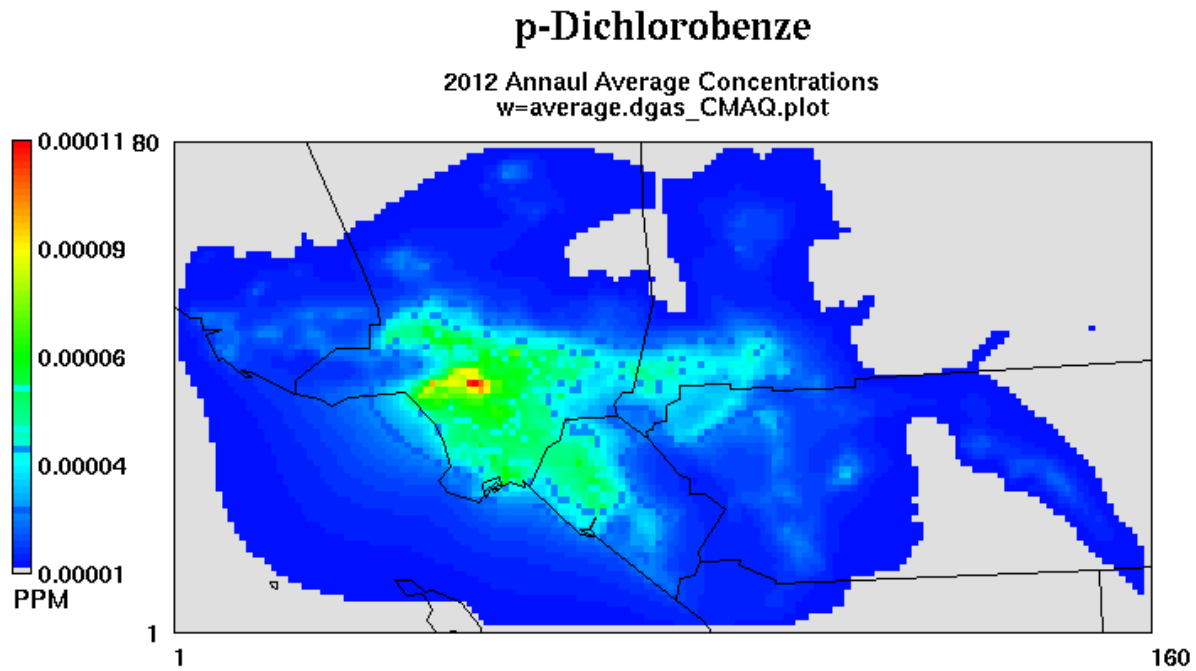


Figure IX-10s
CAMx simulated 2012 annual average p-Dichlorobenzene.

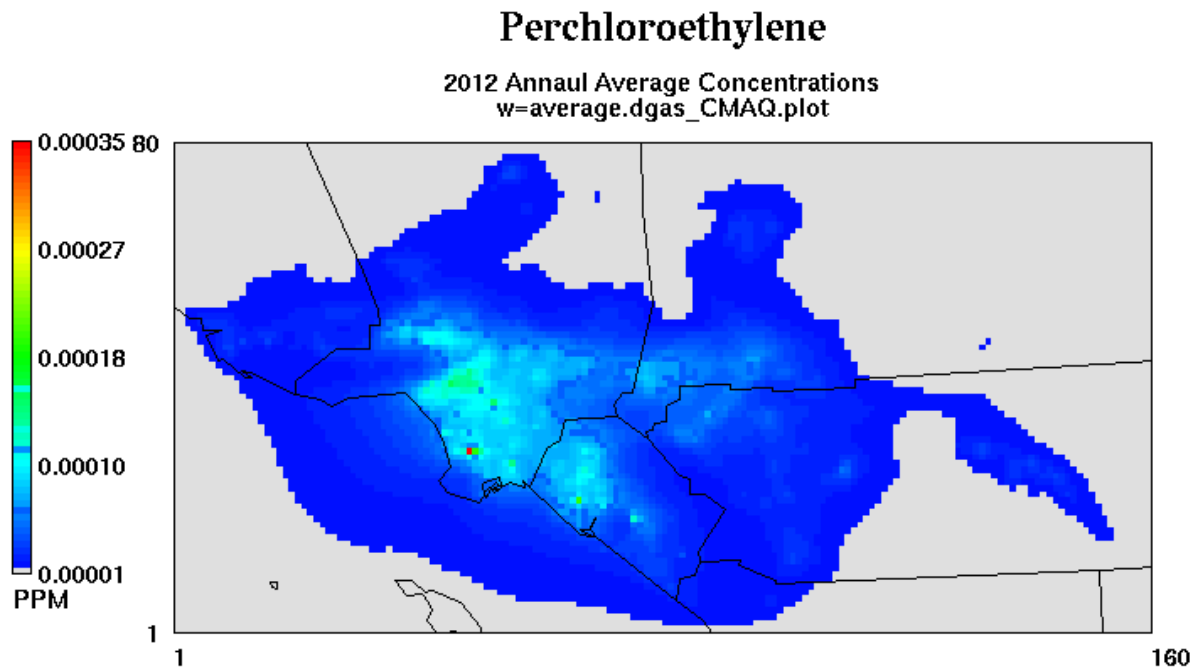


Figure IX-10t
CAMx simulated 2012 annual average Perchloroethylene.

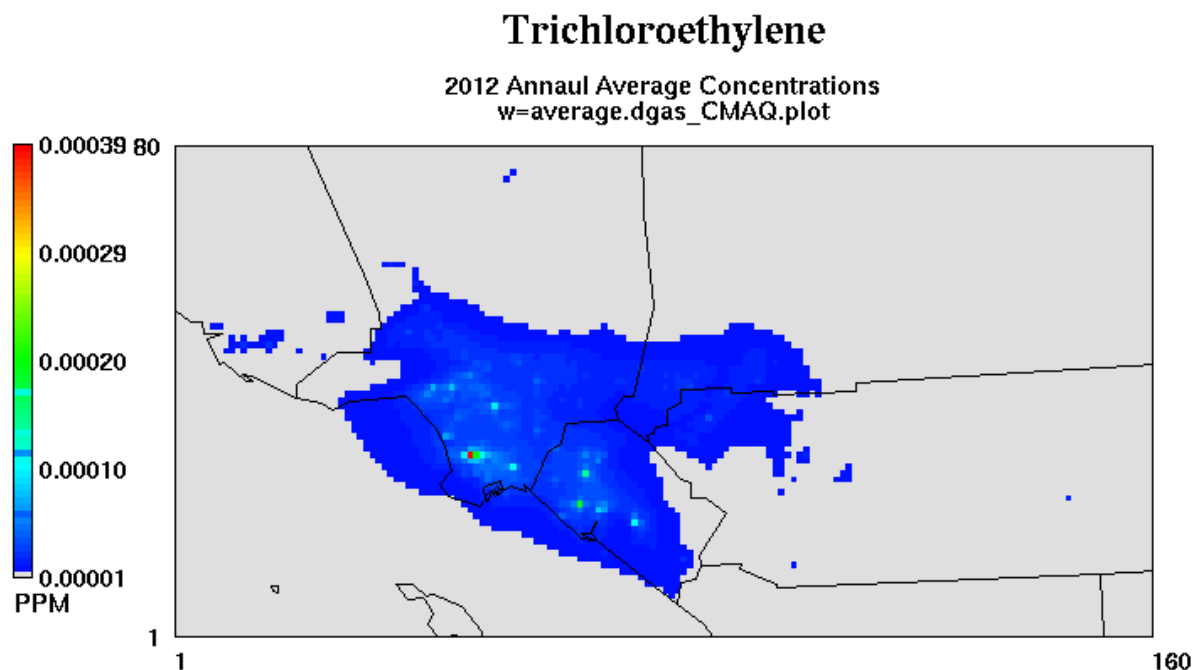


Figure IX-10u
CAMx simulated 2012 annual average Trichloroethylene.

IX.17 Estimation of Risk

Figure IX-11 depicts the distribution of risk estimated from the predicted annual average concentrations of the key toxic compounds. Risk is calculated for each grid cell as follows:

$$\text{Risk}_{i,j} = \sum \text{Concentration}_{i,j,k} \times \text{Risk Factor}_{i,j,k},$$

where i,j is the grid cell (easting, northing) and k is the toxic compound.

The grid cell having the maximum simulated risk of 1,057 was located in the Ports of Los Angeles and Long Beach. In addition to the cluster of cells around the port area with high risk, a second cluster of high risk area is centered on the railyard in Los Angeles. In general, as in the past studies, the higher risk areas tend to be along transportation corridors.

Figure IX-12 provides the CAMx RTRAC simulated air toxics risk for the 2005 MATES III period. Figure IX-13 depicts the changes in risk from 2005 to 2012-2013 estimated from the CAMx RTRAC simulations. The greatest decrease in risk occurred in the port area, reflecting the emission reductions from shipping and port operations. Overall, air toxics risk improves significantly, consistent with air toxic emissions reductions that occurred over the period.

The 2012-2013 Basin average population-weighted risk summed for all the toxic components yielded a cancer risk of 367 in a million. The average risk included all populated over-land cells that reside within the Basin portion of the modeling domain. The MATES III Basin average risk was 853 per million. From the MATES III to the MATES IV period, the simulated risk decreased by 57%. This reduction in Basin risk can be attributed to several factors, most notably changes in diesel emissions between 2005 and 2012. While weather profiles between the two monitoring periods varied, no appreciable difference was observed in the meteorological dispersion potential.

Figures IX-14a through IX-14f depict risk associated with diesel and its specific emissions categories. Figure IX-15 provides the Basin risk excluding the contribution of diesel particulates. On and off-road diesel impacts are spread throughout the Basin following the transportation corridors and off-road facilities such as the intermodal transfer sites. The shipping impacts are concentrated in the vicinity of the Ports of Los Angeles and Long Beach and the adjacent downwind communities.

Regional risk from nondiesel sources (Figure IX-15) is also uniformly distributed throughout the Basin with values typically around 100 in one million, with only a few selected cells showing values in excess of 200.

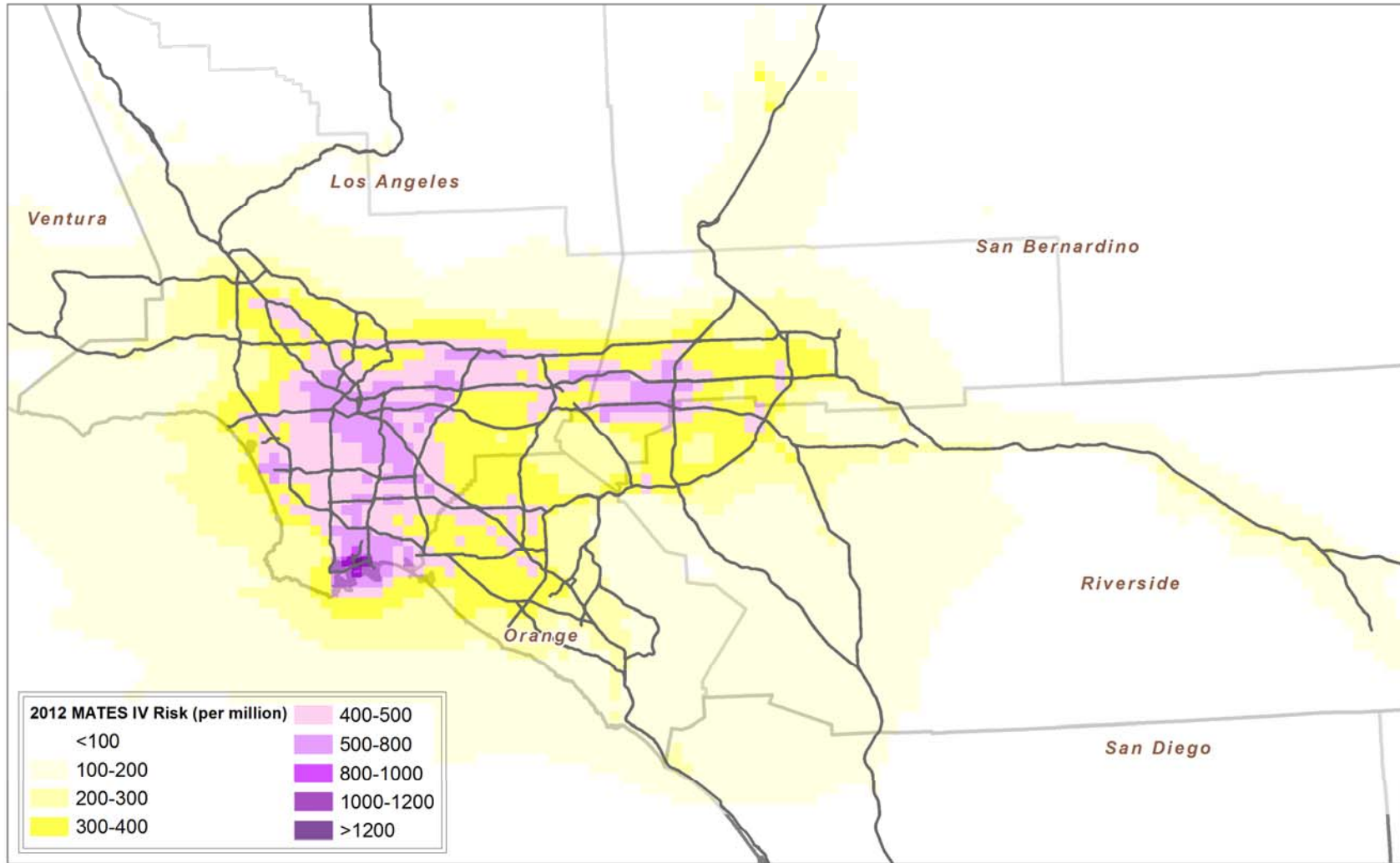


Figure IX-11
2012 MATES IV CAMx RTRAC Simulated Air Toxic Risk.

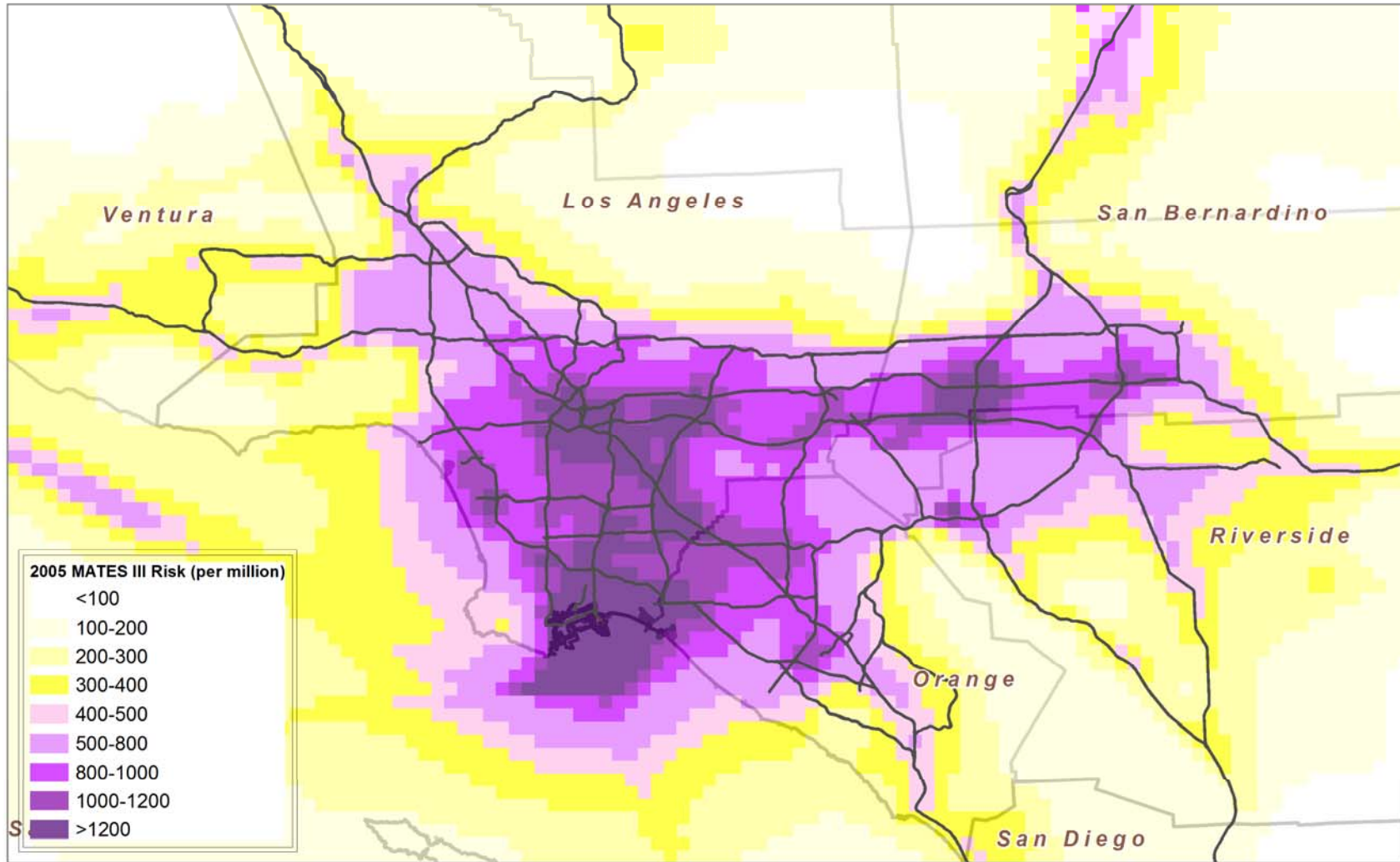


Figure IX-12
2005 CAMx RTRAC Simulated Air Toxic Risk.

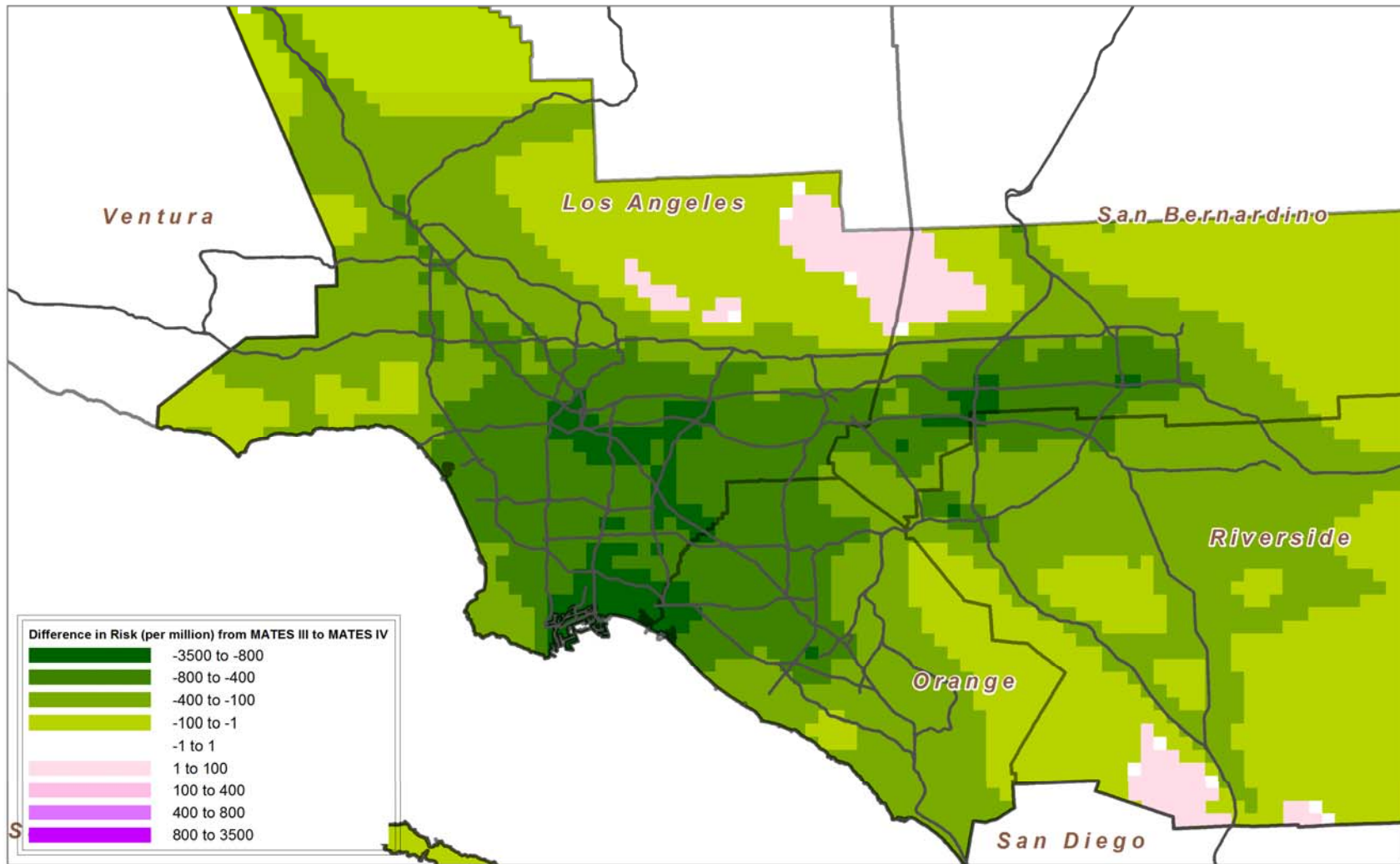


Figure IX-13
Change in CAMx RTRAC simulated risk from the 2005 to 2012

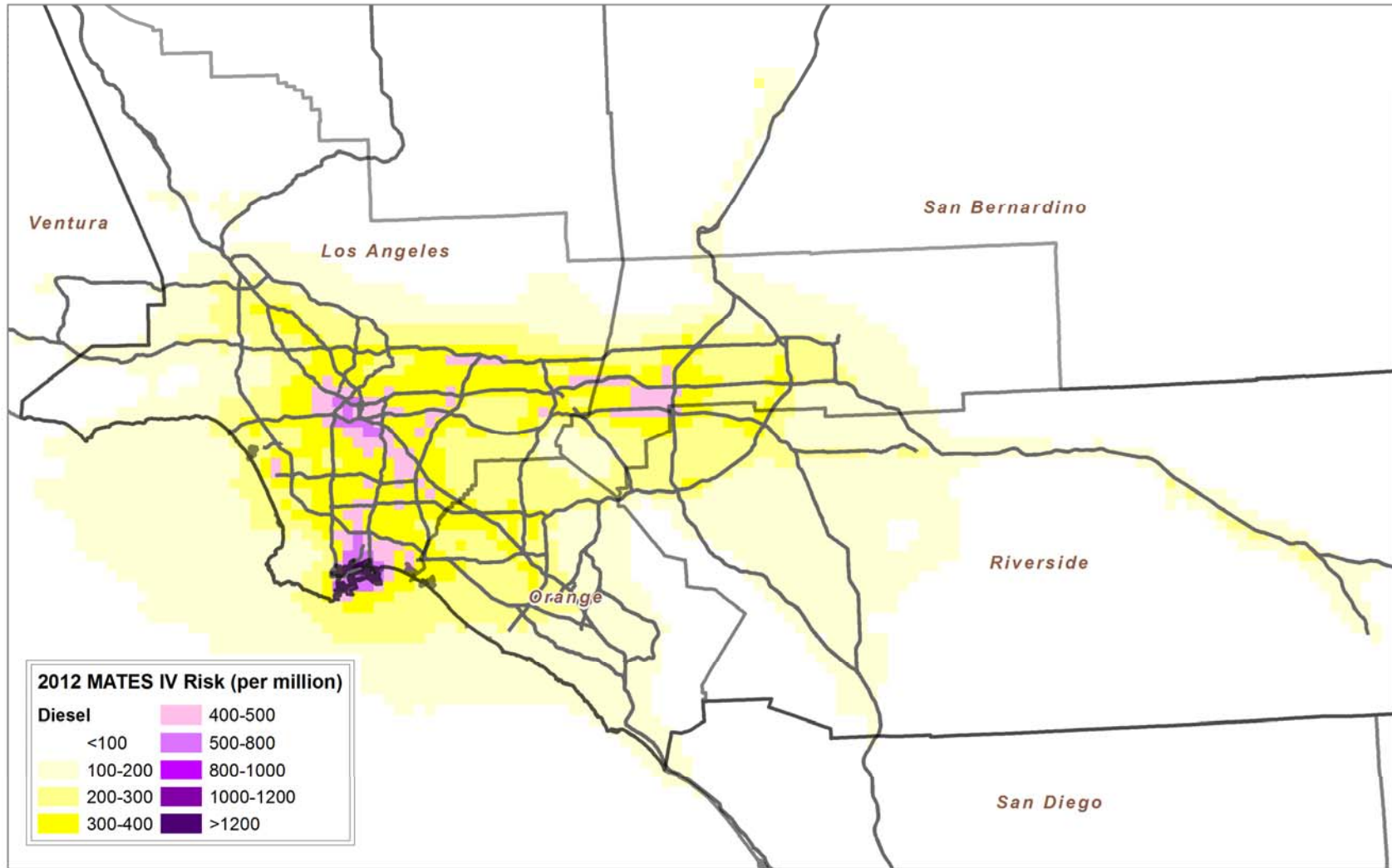


Figure IX-14a
MATES IV Risk from Diesel

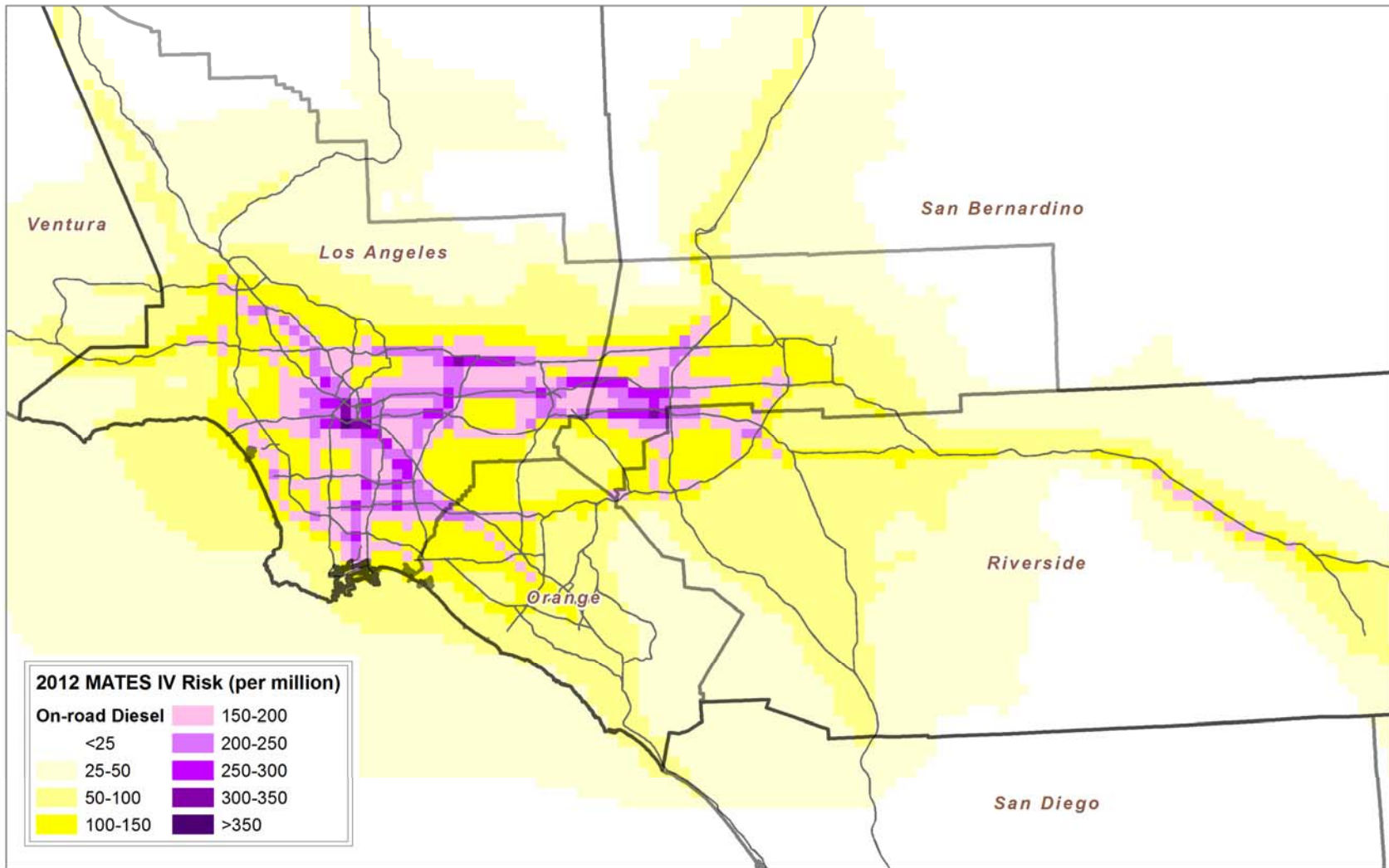


Figure IX-14b
MATES III Simulated Risk from On-Road Diesel.

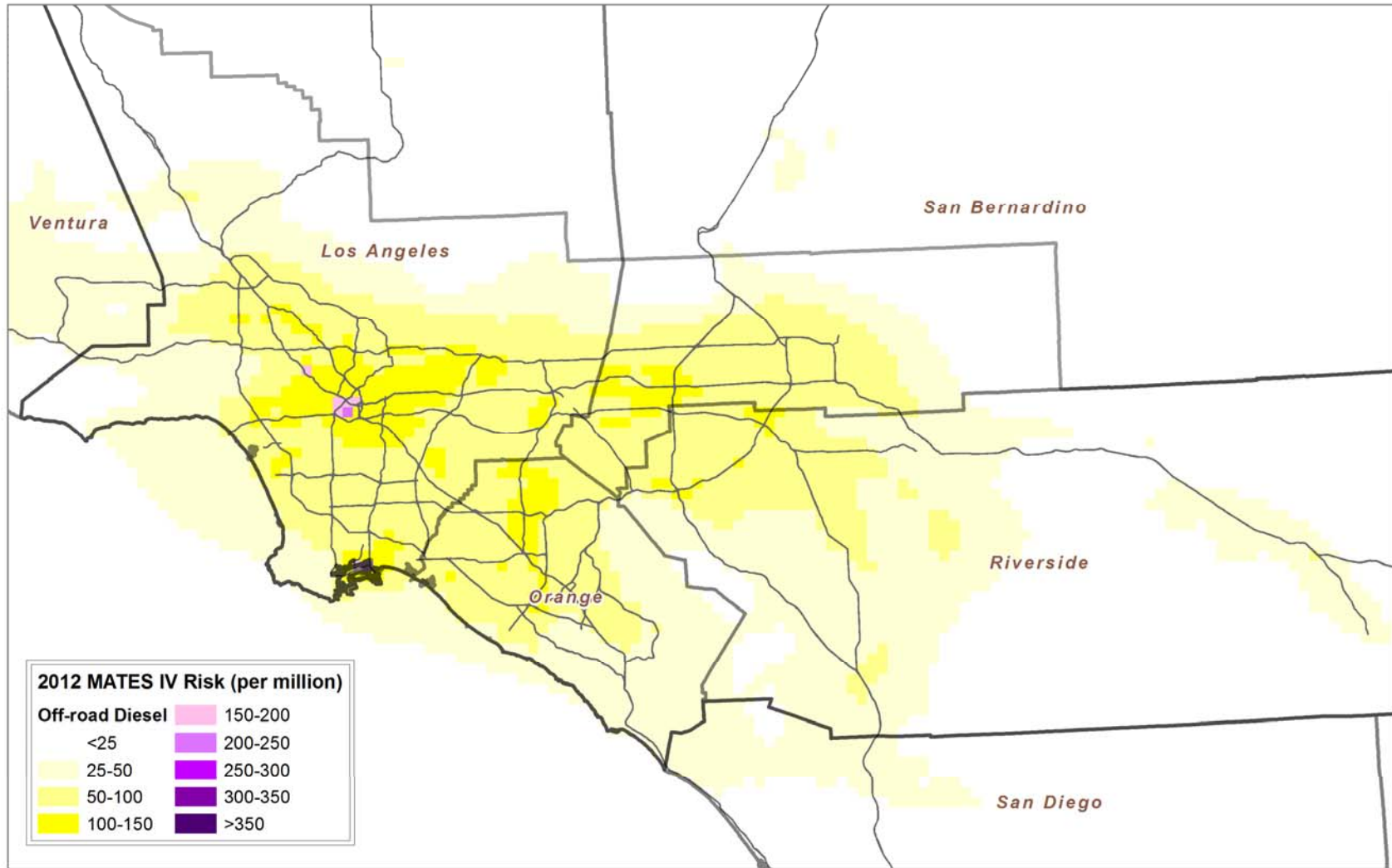


Figure IX-14c
MATES IV Simulated Risk from Off-road Diesel (including railyards but excluding trains and ships).

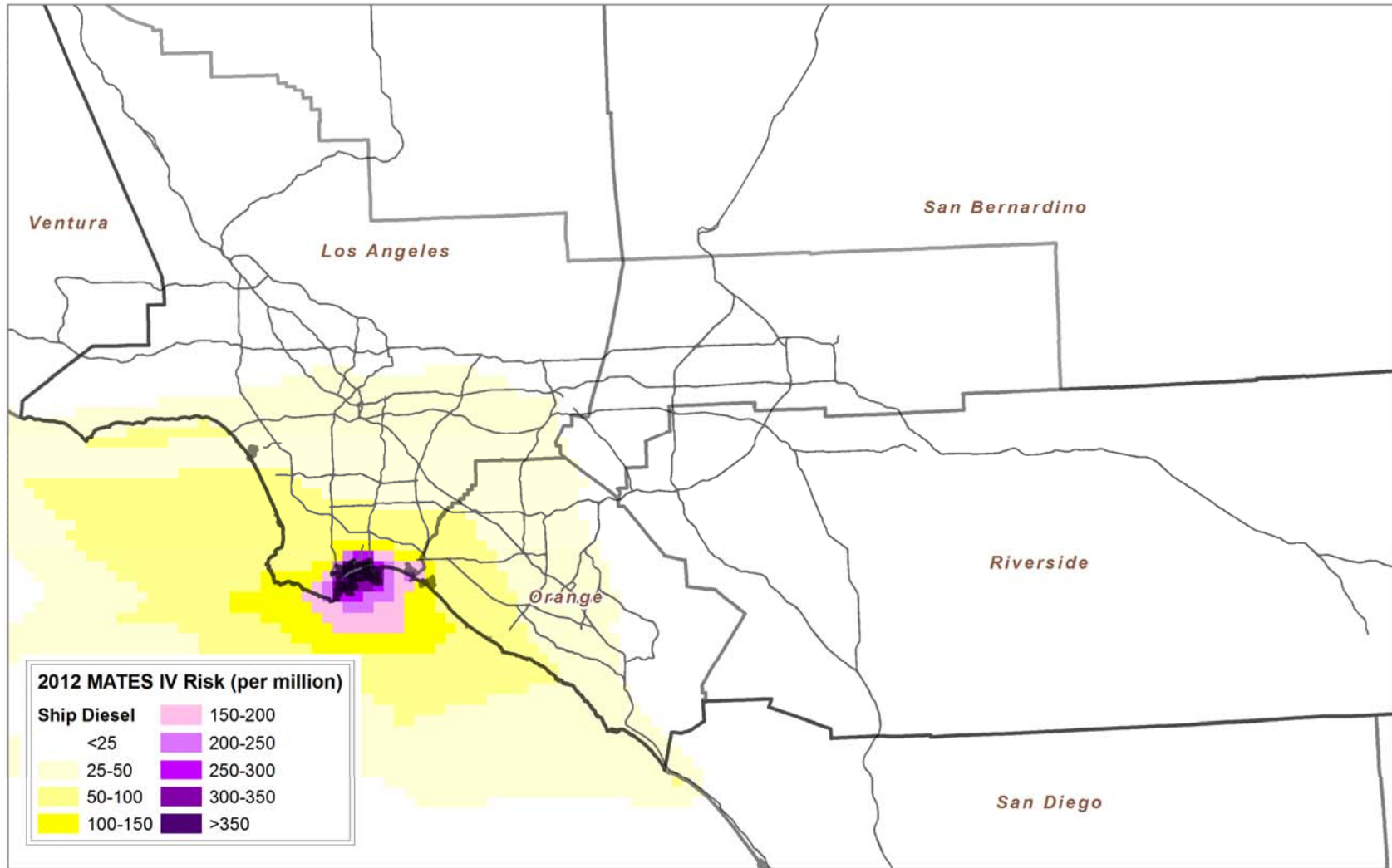


Figure IX-14d
MATES IV Simulated Risk from Ship Diesel.

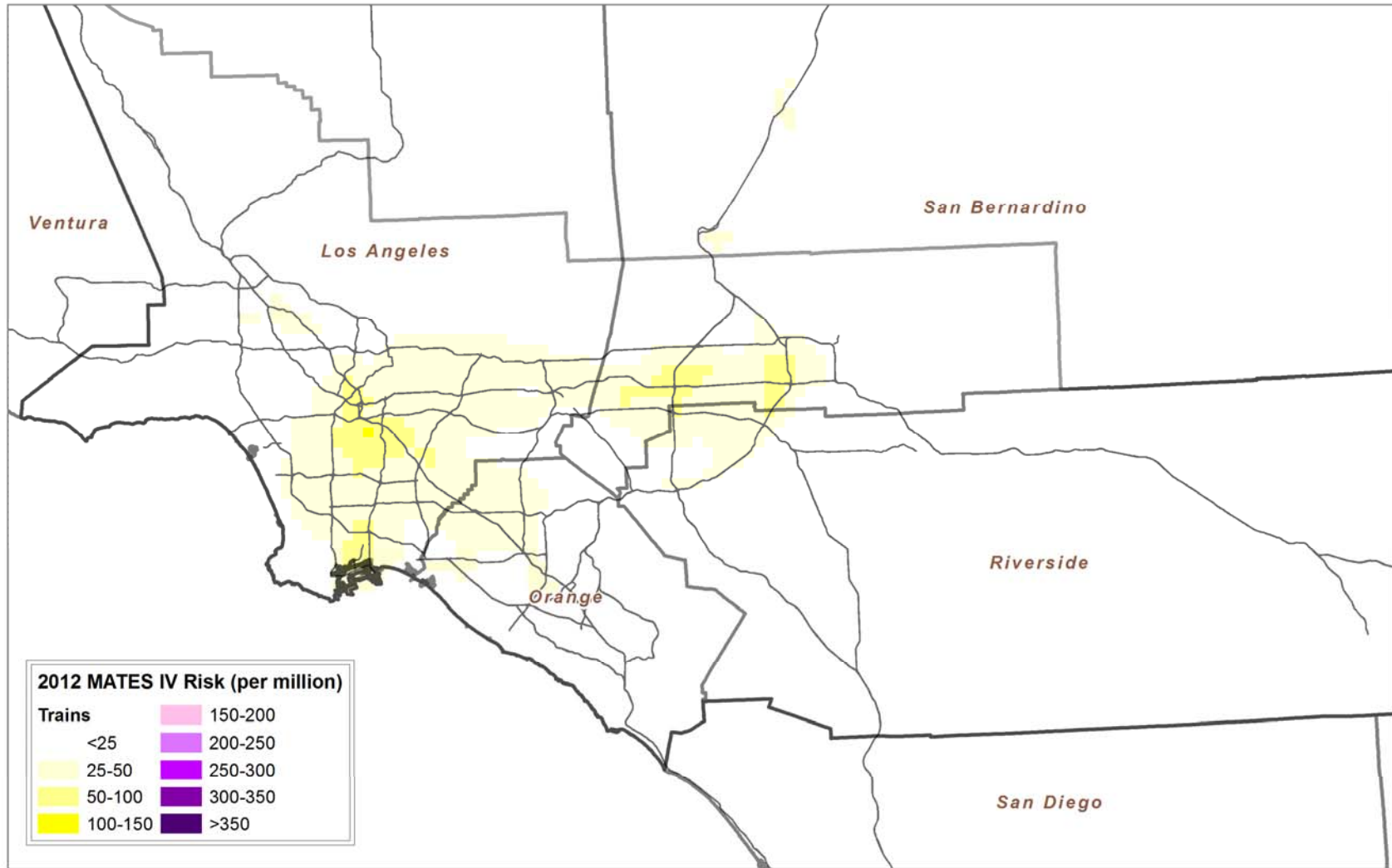


Figure IX-14e
MATES IV Simulated Risk from Trains (Excluding Railyards Equipments).

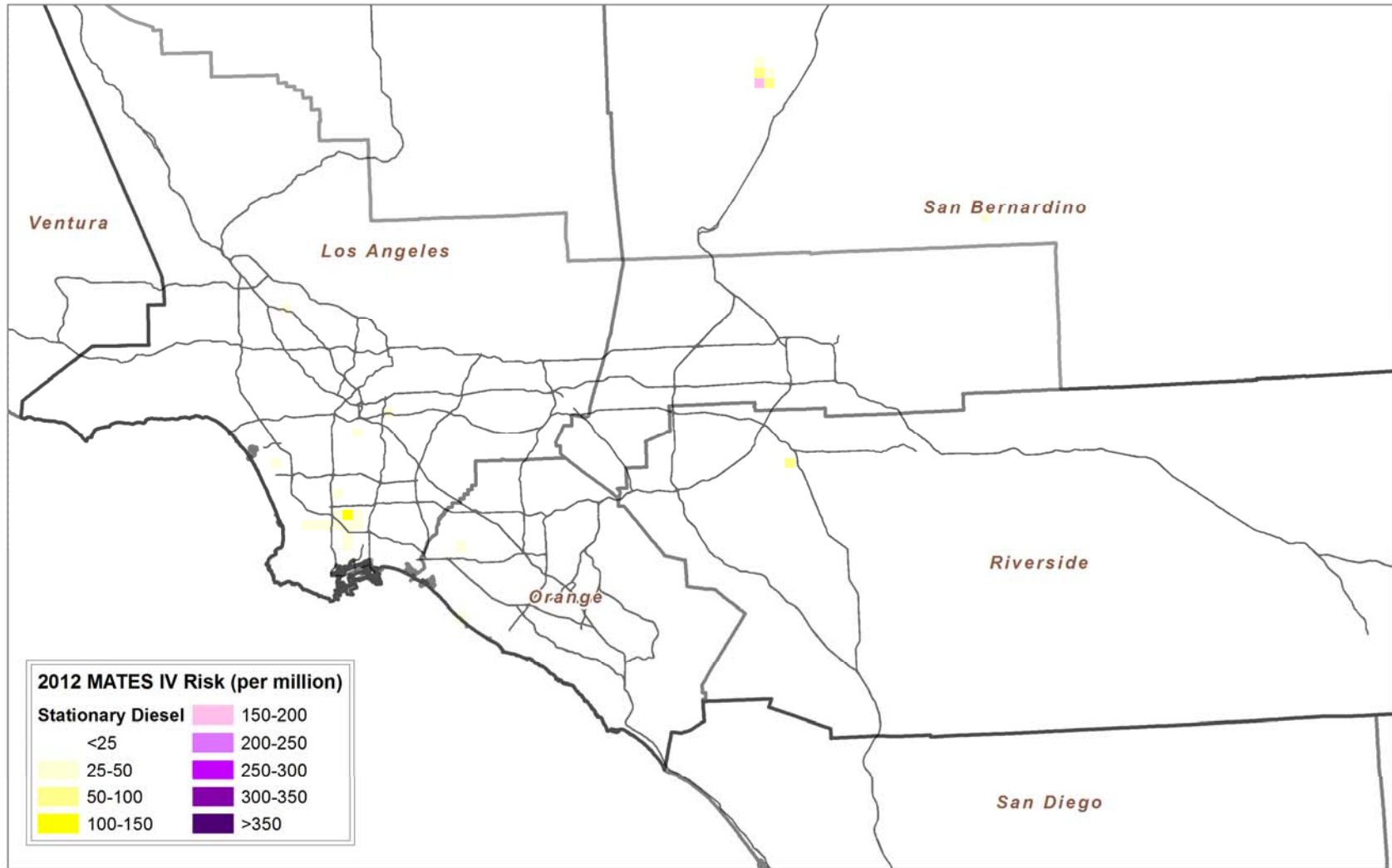


Figure IX-14f
MATES IV Simulated Risk from Stationary Diesel.

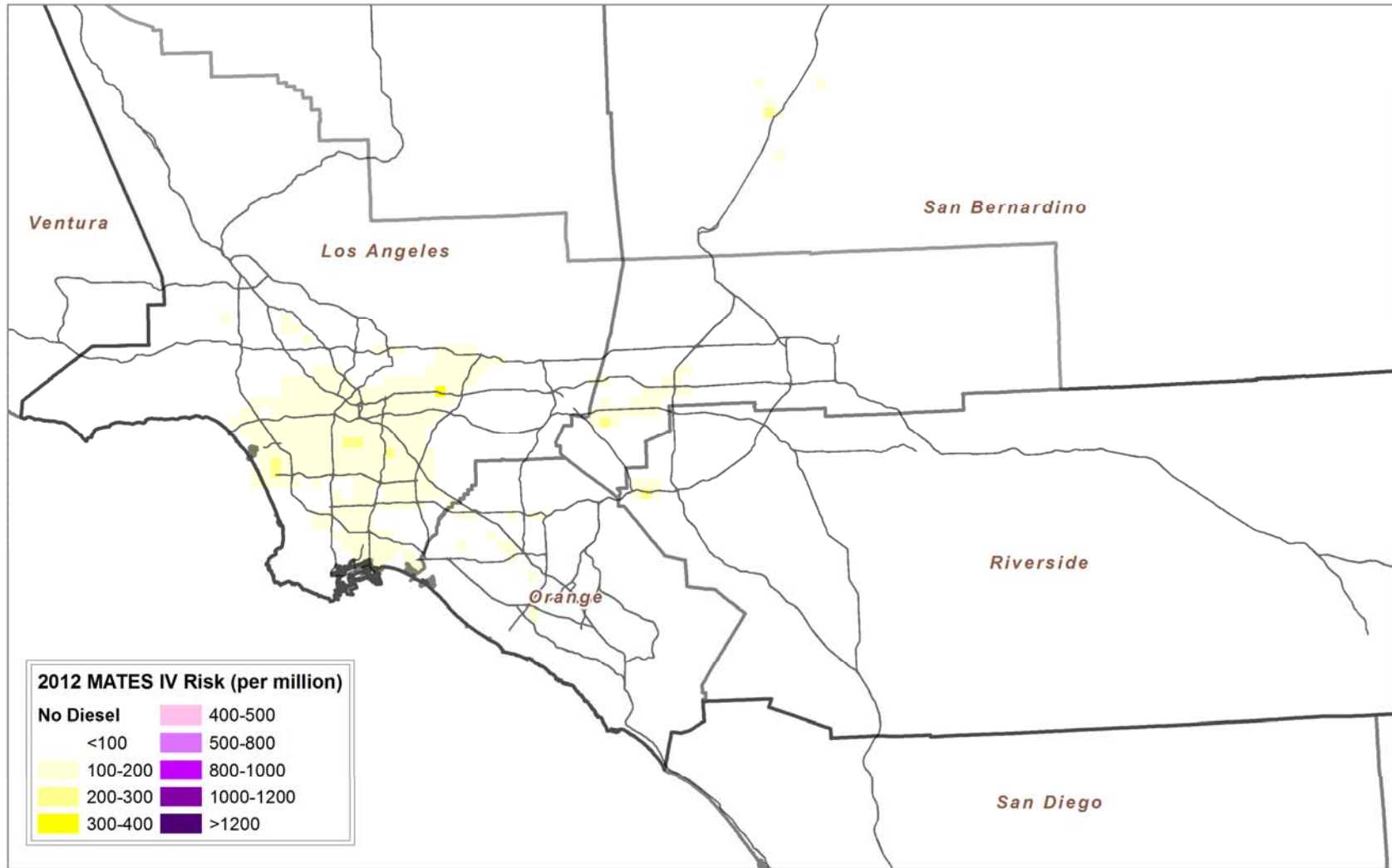


Figure IX-15
MATES IV Simulated Risk No-Diesel.

Figure IX-16 provides a close-up plot of risk in the ports area. Table IX-11 provides a summary risk estimated for the Basin, for the Ports area, and for the Basin excluding the ports area. For this assessment, the ports area includes the populated cells roughly bounded by the Interstate 405 to the north, San Pedro to the west, Balboa Harbor to the east and Pt. Fermin to the south. The 2012-2013 average population-weighted air toxics risk in the ports area (as defined above) was 480 in one million. The Basin average population-weighted air toxics risk, excluding the grid cells in the ports area, was 359 in one million. It is important to note that the downwind impacts resulting from port area activities are reflected in the toxics risk estimates for the grid cells categorized as “Basin minus Ports.” Similarly, the MATES III simulations for 2005 indicated that the ports area air toxics risk was 1,415; and the Basin, minus the ports area, was 816 in one million. Overall, the ports area experienced an approximate 66% decrease in risk, while the average population-weighted risk in other areas of the Basin decreased by about 56%.

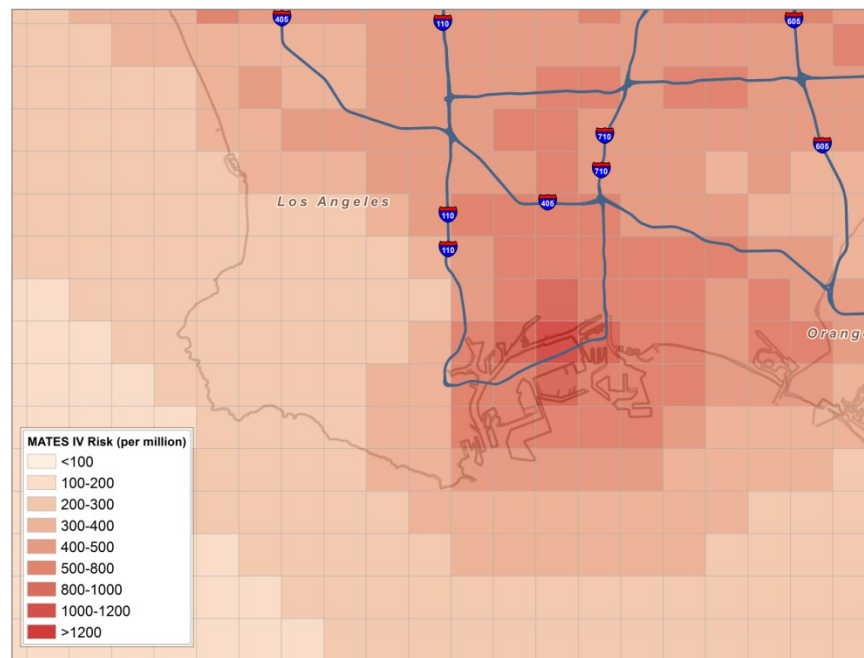


Figure IX-16
2012 Ports area MATES IV Simulated Air Toxic Risk.

Table IX-11
Basin and Port Area Population Weighted Risk

Region	MATES IV		MATES III		Average Percentage Change in Risk
	2012 Population	Average Risk (Per Million)	2005 Population	Average Risk (Per Million)	
Basin	15,991,150	367	15,662,620	853	-57
Ports Area	998,745	480	959,761	1,415	-66
Basin Excluding Ports Area	14,992,806	359	14,702,859	816	-56

IX.18 County Risk Assessment

Figures IX-17 through IX-20 provide close up depictions of air toxics risk to Central Los Angeles, Mira Loma/Colton, Central Orange County and West Los Angeles areas, respectively, and Table IX-12 provides the county breakdown of air toxics risk to the affected population. As presented in the spatial distribution, Los Angeles County bears the greatest average risk at 415 per one million person population. The SCAB portion of San Bernardino County has the second highest projected risk at 339 per one million person population. The estimated risk for Orange County is 315 per million, and Riverside was estimated to have the lowest population-weighted risk at 223. The Coachella Valley of Riverside County, as expected, has the lowest toxic risk at 139. It should be noted that these are county-wide averages, and individual communities could have higher risks than the average if they are near emissions sources, such as railyards or intermodal facilities.

Comparison of the county-wide population-weighted risk shows that the greatest reduction occurred in Orange County with nominal variations among counties. Reductions in emissions from mobile sources including benzene, 1,3-butadiene, and diesel particulate have contributed to the improved county-wide risk. It is noteworthy that San Bernardino County now has higher population-weighted risk than Orange County. This is because the port area has a proportionally larger impact in Orange County than in San Bernardino County.

Table IX-12
County-Wide Population Weighted Air Toxic Risk

Region	MATES IV		MATES III		Average Percentage Change in Risk
	2012 Population	Average Risk (Per Million)	2005 Population	Average Risk (Per Million)	
Los Angeles	9,578,586	415	9,887,127	951	-56
Orange	3,067,909	315	2,764,620	781	-60
Riverside	1,784,872	223	1,548,031	485	-54
San Bernardino	1,560,183	339	1,462,842	712	-52
SCAB	15,991,550	367	15,662,620	853	-57
Coachella Valley	465,064	139	N/A	N/A	N/A

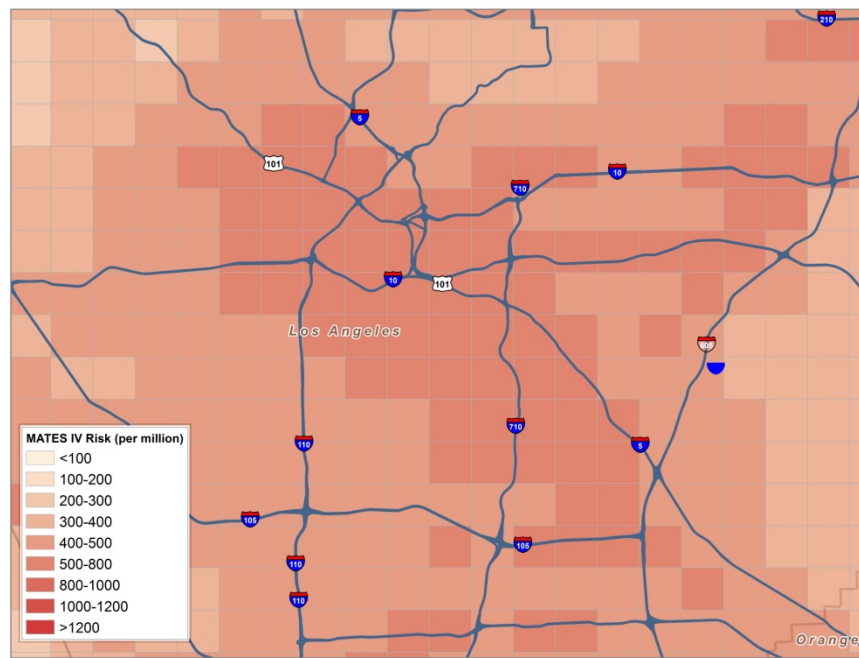


Figure IX-17
2012 Central Los Angeles MATES IV Simulated Air Toxic Risk.

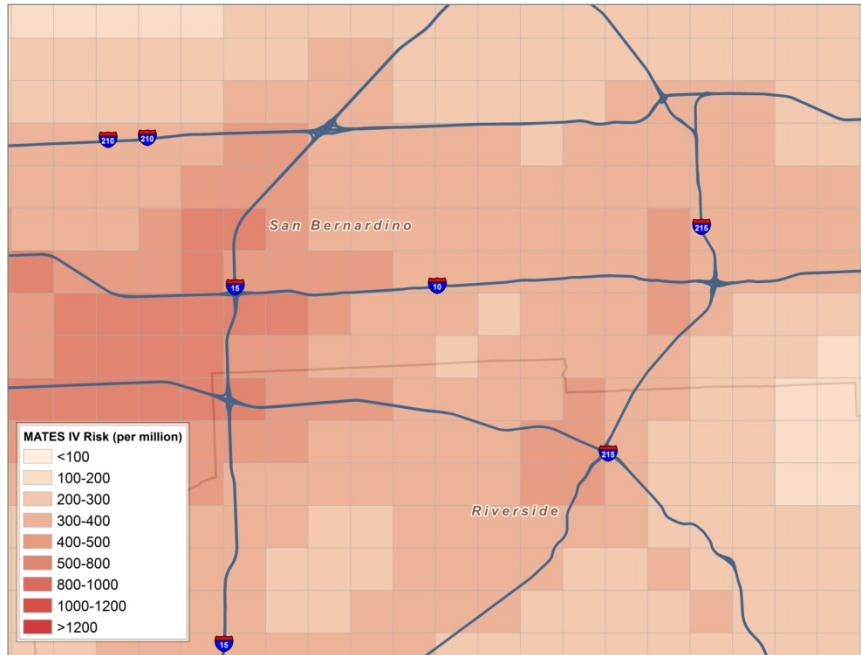


Figure IX-18
2012 Mira Loma/Colton MATES IV Simulated Air Toxic Risk.

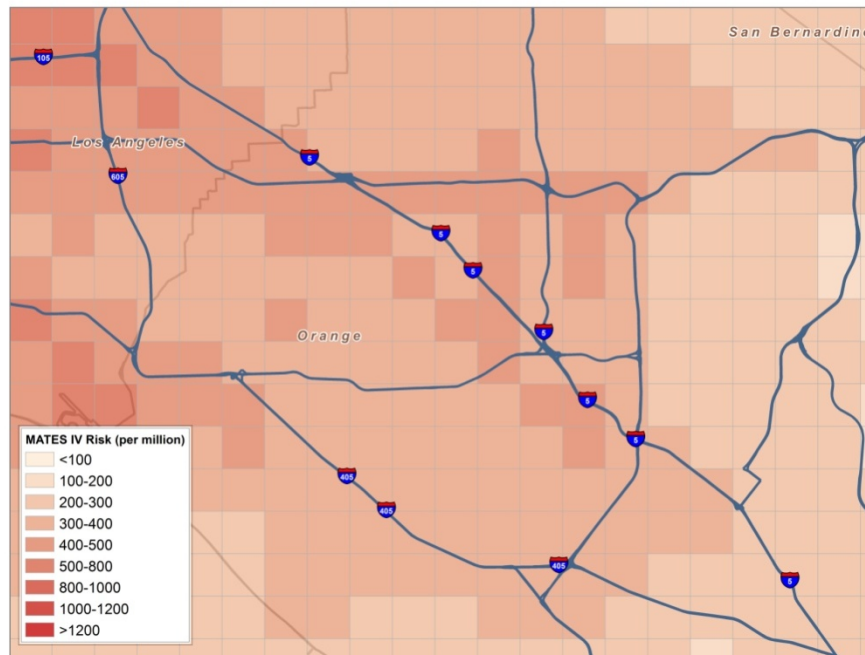


Figure IX-19
2012 Central Orange County MATES IV Simulated Air Toxic Risk.

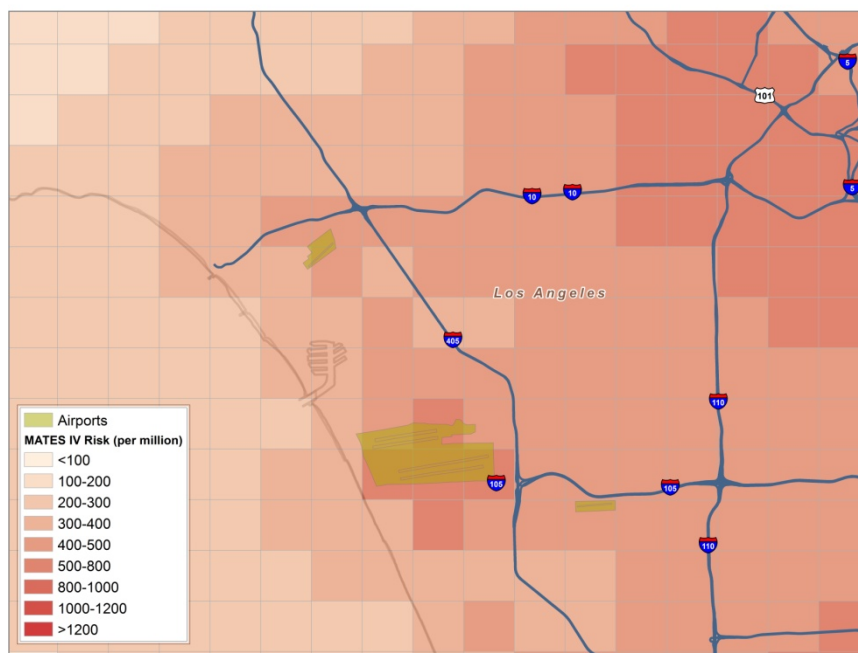


Figure IX-20
2012 West Los Angeles MATES IV Simulated Air Toxic Risk.

IX.19 Risk from Key Compounds

Table IX-13 provides the Basin average breakdown of risk associated with each of the key compounds simulated in the analysis. Diesel particulate ranked highest (76%) as the toxic compound contributing to the overall risk to the population. The next three highest contributors included benzene, hexavalent chromium and 1,3-butadiene. The four top toxic pollutants contribute over 91% toxic risk. Formaldehyde (primary and secondary) and acetaldehyde (primary and secondary) contribute 3.5% and 1.3%, respectively, while the remaining compounds combined accounted for less than 4% of the total.

IX.20 Network Risk Evaluation

Table IX-14 provides the simulated air toxics risk at each of the 10 stations for the three main toxic compounds and the remaining aggregate based on the regional modeling. Risk is calculated using the predicted concentrations of each toxic component for the specific monitoring station location (based on a nine-cell weighted average concentration). The summary also provides the comparison between simulated average risk for the 10 stations combined and the average risk calculated using the annual toxic compound measurements and the estimated diesel concentrations at those sites.

Table IX-13
2012-2013 MATES IV Risk from Simulated Individual Toxic Air Contaminants

Toxic Compound	Risk Factor ($\mu\text{g}/\text{m}^3$)	Peak Annual Average Concentration	Population Weighted Annual Average Concentration	Units	Cumulative Risk (per million)	% Contribution
Diesel	3.00E-04	17.4	0.93	$\mu\text{g}/\text{m}^3$	279.67	76.2
Benzene	2.90E-05	0.51	0.25	ppb	22.82	6.2
Hexavalent Chromium	1.50E-01	0.001	1.37E-04	$\mu\text{g}/\text{m}^3$	20.52	5.6
1,3-Butadiene	1.70E-04	0.58	0.03	ppb	12.54	3.4
Secondary Formaldehyde	6.00E-06	2.35	1.24	ppb	9.12	2.5
Primary Formaldehyde	6.00E-06	2.71	0.50	ppb	3.7	1.0
Secondary Acetaldehyde	2.70E-06	0.93	0.73	ppb	3.56	1.0
Arsenic	3.30E-03	0.043	9.97E-04	$\mu\text{g}/\text{m}^3$	3.29	0.9
p-Dichlorobenzene	1.10E-05	0.11	4.38E-02	ppb	2.90	0.8
Perchloro-ethylene	5.90E-06	0.356	0.07	ppb	2.71	0.7
Naphthalene	3.40E-05	0.03	9.87E-03	ppb	1.76	0.5
Cadmium	4.20E-03	0.014	3.29E-04	$\mu\text{g}/\text{m}^3$	1.38	0.4
Nickel	2.60E-04	0.11	3.69E-03	$\mu\text{g}/\text{m}^3$	0.96	0.3
Primary Acetaldehyde	2.70E-06	0.67	0.16	ppb	0.80	0.2
Methylene Chloride	1.00E-06	0.59	0.21	ppb	0.74	0.2
Trichloroethylene	2.00E-06	0.39	3.08E-02	ppb	0.33	0.1
Lead	1.20E-05	0.065	4.17E-03	$\mu\text{g}/\text{m}^3$	0.05	<0.1

The highest simulated risk was estimated for West Long Beach followed by Los Angeles, Huntington Park, North Long Beach, and Compton. The lowest modeled risk was simulated at Anaheim. As previously discussed, simulation performances at those high risk sites showed a tendency for overprediction; consequently, this feature resulted in the higher risk calculation.

Risk averaged over the 10 stations was simulated as 505 in a million, which is approximately 25% higher than the value estimated from measurements. This includes the contribution of diesel particulates. An emission-based adjustment factor, 0.82, was applied to estimate the diesel portion from the EC_{2.5} measurements.

The nondiesel portion of the simulated risk can be directly compared to risk calculated from the toxic compound measurements. Figure IX-21 presents a comparison of the model simulated and measurement estimated nondiesel risk at each monitoring site, as well as the 10-station average. Simulated nondiesel risk is within 30% of measurements at all stations. The simulated 10-station average risk is essentially equal to the risk estimated from the measurements.

Simulated total risk, including the contribution of diesel particulates, taken as an eight-station average, is 505 in a million. The 10-station average simulated risk is approximately 25% lower than the risk calculated from the measured toxic compound concentrations and the estimates of diesel concentrations using the emissions based factor (0.82) applied to the EC_{2.5} average concentration.

Table IX-14

Comparison of Network Averaged CAMx RTRAC 2012-2013 Modeled Risk to Measured Risk at the 10 MATES IV Sites

Location	2012-2013 MATES IV CAMX RTRAC Simulation				
	Benzene	1,3-Butadiene	Others	Diesel	Total
Anaheim	26	14	54	301	395
Burbank	27	13	59	333	431
Central LA	33	19	78	516	646
Compton	26	17	63	383	489
Inland Valley San Bernardino	21	9	61	309	400
Huntington Park	30	62	96	389	576
North Long Beach	27	16	65	395	503
Pico Rivera	25	13	62	358	459
Rubidoux	20	7	46	296	369
West Long Beach	32	15	69	662	778
10-Station Average Modeled	27	18	65	394	505
10-Station MATES IV Average Measured (EC _{2.5} *0.82 for Diesel)	35	33	47*	287	402

* Including modeled species only, Risk from some species, such as carbon tetrachloride, chloroform and PAHs are excluded.

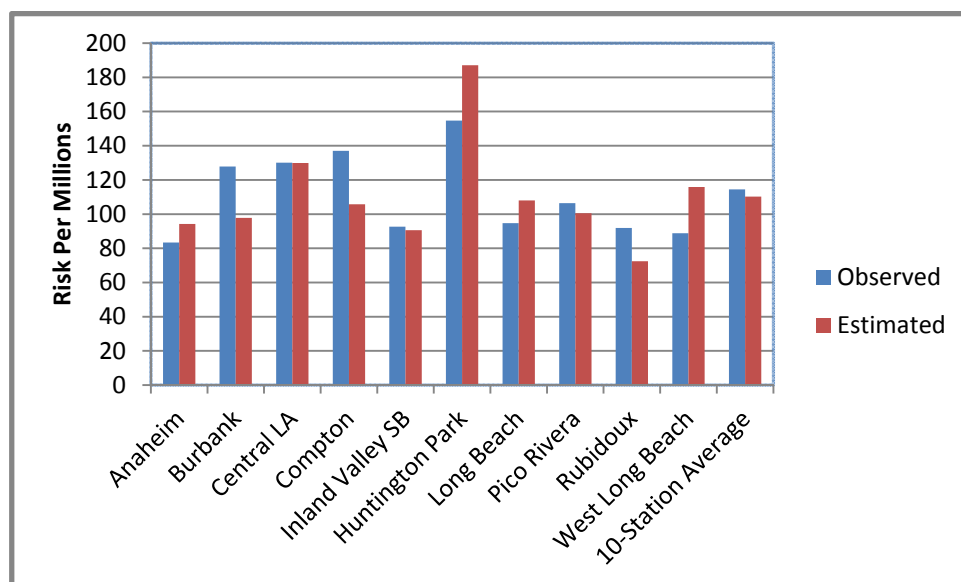


Figure IX-21
2012 MATES IV Simulated vs. Measured Non-Diesel Air Toxics Risk

IX.21 Evaluation

The population-weighted average Basin air toxics risk (367 per million) simulated using CAMx RTRAC for the 2012-2013 MATES IV period was estimated to be 57% lower than estimated (853 in a million) for the MATES III period. The areas of the Basin with the highest risk continued to be the Ports of Los Angeles and Long Beach with a secondary maximum occurring in an area around the railyard in the Los Angeles.

A majority of the risk reduction can be tied to changes in diesel emissions, which were reduced by 66% from 2005 to 2012. The emissions reductions of benzene (11%), 1,3-butadiene (50%), arsenic (43%) and other air toxics contribute to the overall reduction in 2012-2013 simulated risk, as well. A general assessment of the observed meteorological profile suggests that the two monitoring periods were comparable in dispersion potential.

IX.22 References

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APPENDIX X

MATES IV

DRAFT FINAL REPORT

**The Spatial and Temporal Trends of
PM_{2.5}, PM₁₀, and TSP Components in the South Coast Air Basin**

Author

Kalam Cheung

Appendix X. The Spatial and Temporal Trends of PM_{2.5}, PM₁₀, and TSP Components in the South Coast Air Basin

X.1. Summary

To characterize the ambient level of toxic pollutants in the South Coast Air Basin, PM_{2.5}, PM₁₀ and Total Suspended Particles (TSP) samples are collected once every six days at 10 monitoring stations from July, 2012 to June, 2013. The spatial and seasonal trends of chemical components in PM_{2.5} are examined. Organic matter (OM) is the most dominant category, accounting for ~44% of the reconstructed mass, while approximately one-third (36%) is attributable to the group of inorganic ions. Elemental carbon (EC) contributes by 8.6%, followed by crustal materials (5.9%) and sea salt (5.3%). Due to limited atmospheric ventilation in cooler months, EC, OM and crustal materials concentrations are higher in the winter than in the summer in the source areas. In the inland receptor areas, regional transport is less pronounced in winter. Thus, their mass fractions in winter are generally similar to, or lower than those in summer. An air pollution episode occurred in early December, and fine particulate mass is elevated by $57 \pm 30\%$ across the Basin. In particular, the levels of EC, nitrate and ammonium are higher than the annual average by 2.5, 2.6 and 2.5 times, respectively. Overall, the levels of toxic air pollutants reduce considerably compared with MATES II and MATES III. Fine particulate EC is 36% lower than MATES III, due to reduction of tailpipe emissions. The decline is less pronounced (24%) for EC in PM₁₀. Additional analysis suggests that abrasion emissions induced by heavy-duty diesel vehicles may be a significant source of coarse PM-bound EC. For TSP, arsenic and cadmium concentrations are much lower than those observed in MATES II and MATES III, although the reductions are partly driven by the lower detection limits in the current study. Compared to MATES III, average levels of lead, nickel, vanadium, and hexavalent chromium decrease by 50, 36, 68 and 69% respectively.

X.2. Mass Reconstruction of PM_{2.5}

In the PM_{2.5} samples, levels of EC, organic carbon (OC), inorganic ions and metals are quantified. For the purpose of chemical mass reconstruction, these chemical components are grouped into five categories: EC, OM, crustal materials (CM), inorganic ions and sea salt. Reconstructed PM mass is calculated based on the sum of the five categories:

Reconstructed mass = elemental carbon + organic matter + crustal materials + inorganic ions + sea salt

EC is assumed to contain only carbon and requires no multiplier. OM is estimated from OC with a multiplier of 1.4 that accounts for the unmeasured hydrogen (H), oxygen (O), nitrogen (N), and sulfur (S) (Malm et al., 1994). Crustal materials (CM) consist of the typical geological materials including Al, Ca, Fe, Ti and Si. They are multiplied by 2.2, 1.63, 2.42, 1.94 and 2.49 respectively to account for the oxygen associated with these elements (Malm et al., 1994). Inorganic ions represent the sum of sulfate (SO₄²⁻), nitrate (NO₃⁻), and ammonium (NH₄⁺). Previous studies in this Basin show that these are present in PM_{2.5} samples as ammonium sulfate (NH₄)₂SO₄ and ammonium nitrate (NH₄NO₃); contributions from fugitive dust and salt are small,

and do not affect PM_{2.5} mass reconstruction. Sea salt is estimated from the sum of sodium ion (Na⁺) and chloride ion (Cl⁻).

Daily reconstructed mass is calculated for each site and compared with gravimetric measurements. The reconstructed mass agrees well with the filter-based measurements ($R^2 = 0.69$, $n = 589$). The average ratio of reconstructed to gravimetric mass concentration is 1.03 ± 0.29 . The lower fraction occurs at the sampling stations of Anaheim (0.95 ± 0.19) and North Long Beach (0.91 ± 0.24). The uncertainty of the above-mentioned mass reconstruction method could be attributed to the uncertainty in the OC multiplication factor, which greatly depends on source characterization of organic component that may have consideration seasonal and spatial variation. Additionally, the higher relative humidity at coastal locations could hydrate particles during sample collection, which may still retain water content after equilibration at 30-40% relative humidity, thereby causing the discrepancy between the gravimetric and the reconstructed mass (Andrews et al., 2000).

Figure X-1 illustrates the chemical closure of PM_{2.5}. Overall, OM is the most dominant category, contributing an average of $44.2 \pm 1.0\%$ to the reconstructed mass. The levels of OM are relatively higher in sites that are further from the coast, namely Pico Rivera (annual avg. = $6.53 \mu\text{g}/\text{m}^3$), Burbank (annual avg. = $6.73 \mu\text{g}/\text{m}^3$), Inland Valley San Bernardino (annual avg. = $6.77 \mu\text{g}/\text{m}^3$) and Rubidoux (annual avg. = $6.47 \mu\text{g}/\text{m}^3$), although their contributions to the reconstruction mass are similar with other sites. The group of inorganic ions ($36.0 \pm 1.5\%$) is another major source category, with 16.0, 11.2 and 8.7% attributable to nitrate, sulfate and ammonia, respectively. EC accounts for an average of 8.6% of the reconstructed mass, and higher fractions are found at Pico Rivera (9.5%) and West Long Beach (9.3%). In general, the standard deviations of the site-wide annual average contribution of EC, OM and inorganic ions are less than 10% of their corresponding averages, highlighting the relatively low spatial variation of the three major source categories in this Basin. Approximately 5.9% of the reconstructed mass is attributed to crustal materials, with higher fractions at West Long Beach (8.1%) and Inland Valley San Bernardino (7.8%). Sea salt accounts for 5.3% of the reconstructed mass. Higher fractions are observed at West Long Beach (6.8%) and North Long Beach (7.2%), while the inland stations of Inland Valley San Bernardino and Rubidoux record lower fractions at 3.6% and 3.7%, respectively.

Meteorological conditions such as wind direction and speed, mixing height and temperature play an important role in the formation and removal mechanisms of PM components, thereby impacting ambient pollutant concentrations in different time of the year. EC shows a seasonal variation, with higher concentrations in winter (avg. = $1.88 \pm 1.2 \mu\text{g}/\text{m}^3$) than summer (avg. = $0.82 \pm 0.54 \mu\text{g}/\text{m}^3$). Such trend is more distinct in the source areas and less pronounced at the two inland sites. Mean monthly levels of EC in PM_{2.5} ranged from 0.58 to $0.89 \mu\text{g}/\text{m}^3$ in summer to 1.34 to $2.15 \mu\text{g}/\text{m}^3$ in winter. In this Basin, EC predominantly arises from vehicular emissions. In winter, the level of atmospheric dispersion is generally lower due to lower temperature and weaker prevailing winds, facilitating the accumulation of air pollutants in the western side of the Basin. OM, predominantly arises from anthropogenic emissions in the fine mode, displays a similar seasonal trend with EC, with higher concentrations in winter (avg. = $6.93 \pm 2.7 \mu\text{g}/\text{m}^3$) than other seasons (avg. = $5.72 \pm 2.34 \mu\text{g}/\text{m}^3$). The seasonal characteristics of CM vary by location. At the two inland sites, winter CM levels are lower than or similar to those

of summer. At most other sites, CM levels are higher in winter than summer. Generally, sea salt levels are lower in winter (avg. = $0.52 \pm 0.43 \mu\text{g}/\text{m}^3$) than other seasons (avg. = $0.79 \pm 0.51 \mu\text{g}/\text{m}^3$). In this Basin, prevailing onshore wind is stronger in spring and summer, transporting marine emissions from the coast to the inland areas. The lower concentrations in winter result from the lower wind speed and the change of predominant wind direction (from westerly in summer to northerly and northeasterly in winter) in certain sites. The seasonal and spatial trend of inorganic ions is determined by sulfate, nitrate and ammonium. Winter sulfate levels are lower than summer levels by $77.7 \pm 4.6\%$. Across the 10 monitoring sites, winter concentrations range from 0.31 to $0.67 \mu\text{g}/\text{m}^3$, while summer levels vary from 1.95 to $2.39 \mu\text{g}/\text{m}^3$. The higher temperature in summer favors the photochemical oxidation of SO_2 and enhances the formation of particulate sulfate. Winter nitrate levels, on the other hand, are higher than or similar to those of summer. The seasonal variation is more distinct near the coast (North Long Beach, West Long Beach, Compton and Anaheim). Gas-to-particle conversion of ammonium nitrate is generally stronger in wintertime, when temperature is lower and more favorable for the formation of particulate nitrate (Seinfeld and Pandis, 2006). The seasonal variation of ammonium is similar to that of nitrate, with slightly higher concentration in winter than summer.

Note that an air pollution episode, defined as three or more continuous days of daily 24-hour average $\text{PM}_{2.5}$ concentration exceeding $35 \mu\text{g}/\text{m}^3$, occurred from December 7 to December 9, 2012. PM levels are elevated ($>30\%$ above annual average) from December 5 to December 11 at most sampling stations. As a result, the samples collected on December 5 and 11 of 2012 show considerably higher levels of PM components compared with other data collected in winter. Figure X-2 shows the chemical composition of $\text{PM}_{2.5}$ on December 11. Compared to the yearly averages (Figure X-1), the contributions of EC and inorganic ions to the reconstructed mass are higher on December 11, while the fractions of OM, crustal and sea salt decrease. Inorganic ion is the most abundant category, accounting for $43.0 \pm 3.1\%$ of the reconstructed mass. In particular, nitrate is a major constituent, and its contribution on December 11 (26.0%) is considerably higher than the yearly average contribution (16.0%). About one-third (35.8%) of the reconstructed mass is attributed to OM. EC's average contribution is $13.6 \pm 1.8\%$. Note that the episode is more pronounced at the source area, where both the gravimetric and reconstructed mass increase by more than 50% relative to the yearly averages. Given the spatial variation of the episode's magnitude, the increase levels of EC and inorganic ions in the source area, and the examination of meteorology (temperature, dew point, wind speed, etc.), the episode is likely due to an event of fog in stagnant conditions, which is characterized by an increase in relative humidity and reduction in atmospheric dilution. These atmospheric conditions favor the formation of secondary ions, resulting in their high concentrations in the source areas (Seinfeld and Pandis, 2006).

Chemical mass reconstruction is not conducted on PM_{10} and TSP measurement due to the absence of metal and/or inorganic ion data. Nonetheless, the ratios of EC and OC to gravimetric mass concentrations are compared. On average, EC accounts for $8.6 \pm 6.5\%$ and $5.9 \pm 3.1\%$ of $\text{PM}_{2.5}$ and PM_{10} , respectively. This is consistent with the understanding that EC is more abundant in fine PM than coarse PM in areas with dominant primary emissions. OC contributes to $33.7 \pm 14\%$ of $\text{PM}_{2.5}$ and $17.5 \pm 6.6\%$ of PM_{10} . The source of OC is distinct in the fine and coarse fraction in this Basin. OC in the fine mode primarily originates from anthropogenic emissions, while a significant fraction of coarse PM-bound OC arises from biogenic sources such

soil-derived dust and humic substances (Cheung et al., 2011). The mass fraction of OC in coarse mode aerosols is generally lower.

X.3. Elemental Carbon in PM_{2.5} and PM₁₀

EC was measured in both PM_{2.5} and PM₁₀ samples in the MATES III and MATES IV Study, while the MATES II Study quantified EC only in PM₁₀. Their levels are shown in Figures X-3 and X-4.

In the PM₁₀ samples, average EC level is $1.58 \pm 0.08 \mu\text{g}/\text{m}^3$. EC decreased by 24% compared to MATES III and 52% compared to MATES II. The reduction is more significant for fine particles. Average EC in PM_{2.5} is $1.17 \pm 0.99 \mu\text{g}/\text{m}^3$, which is 36% lower than MATES III. Fine particulate EC primarily arises from fossil fuel combustion in this Basin, whereas the contribution of biomass burning could be significant in the coarse mode in the inland areas, particularly in winter. Additionally, nonexhaust emissions, namely tire and brake wear, as well as road surface wear, could be a major source of EC in coarse PM. The higher reduction in fine particulate EC suggests the sources of EC in fine PM (i.e. emission from fossil fuel combustion) is more efficiently controlled than the sources in the coarse mode. Due to proximity to the Ports of Long Beach and Los Angeles, the two Long Beach sites are heavily influenced by heavy-duty diesel vehicle (HDDV). Although HDDV is a major source of EC, the levels of EC in Long Beach are similar to other monitoring sites, suggesting the reduction of tailpipe emissions of HDDVs and/or stronger dilution of air pollutants along the coast in MATES IV. In 2006, the Clean Air Action Plan was adopted by the Ports of Long Beach and Los Angeles. Incentives were provided to the trucking industry to switch to newer and cleaner trucks. Starting in 2012, trucks that do not meet the 2007 Federal Clean Truck Emission Standards are not allowed to service the Ports' terminals. The significant reductions of fine particulate EC at West Long Beach (44%), and to a lesser extent North Long Beach (38%), relative to MATES III are in line with the monitoring data from the ports. Note that the levels of some PM constituents measured at the MATES IV West Long Beach site were slightly higher than those measured concurrently at the MATES III West Long Beach site (more details about the location and comparison of the two sites can be found in Appendix V). Therefore, the percentage reduction of PM species from the ambient monitoring program in West Long Beach might be a low estimate.

On average, PM_{2.5}-bound EC contribute to 68% of the EC measured in the PM₁₀ samples. Interestingly, the ratio of PM_{2.5}-bound EC to PM₁₀-bound EC shows a spatial variation. The lower fractions at West Long Beach (57%) and North Long Beach (58%) indicate that a higher fraction of EC resides in the coarse mode at Long Beach compared to other areas. Wear from tires, brake, and road surface is a significant nonexhaust source of coarse particle emissions, particularly at Long Beach where HDDV is a major source of air pollutants. The lower ratios suggest that EC originating from HDDV, either as direct or indirect emissions, may contribute significantly to coarse particles. Additionally, the coarse fraction of EC, calculated as the difference between PM₁₀ and PM_{2.5}, is significantly higher at West Long Beach (avg. = $0.63 \mu\text{g}/\text{m}^3$; 95% CI = $0.08 \mu\text{g}/\text{m}^3$) than the nine other sites (avg. = $0.44 \mu\text{g}/\text{m}^3$; 95% CI = $0.03 \mu\text{g}/\text{m}^3$). West Long Beach is 100 m. east of the Terminal Island Freeway and 1.2 km. west of the Long Beach Freeway (I-710). It is heavily impacted by the large volume of HDDVs from port activity. Furthermore, the relative humidity is usually a few percent higher in Long Beach than

Central Los Angeles and the inland areas, thereby impeding the degree of particle re-suspension. The lower ratio at Long Beach suggests a local source, either in the form of emission or re-suspension of coarse particulate EC. HDDVs are known to have higher emissions of tire and brake wear due to the stronger abrasion processes, and they also induce a greater magnitude of particle re-suspension from the road than light-duty traffic (Charron and Harrison, 2005). Given that this site experiences similar fine particulate EC levels with other sites, it is likely that coarse PM-bound EC originate from the mechanical processes of abrasion from the HDDVs.

As mentioned previously, both PM_{2.5} and PM₁₀ EC levels are higher in winter than other seasons due to meteorology (Figures X-5 and X-6). During cooler months, the mixing height is generally lower. Furthermore, particle re-entrainment by wind reduces due to lower wind speed in the source area. Consequently, the effect of vehicle-induced re-suspension becomes more pronounced, resulting in higher fractions of traffic-related coarse particles. The seasonal trend is consistent at all sites with the exception of Central Los Angeles. PM_{2.5} EC winter level is 1.88 $\mu\text{g}/\text{m}^3$ (95% CI = 0.20 $\mu\text{g}/\text{m}^3$), doubling the average level of 0.93 $\mu\text{g}/\text{m}^3$ in other seasons (95% CI = 0.21 $\mu\text{g}/\text{m}^3$). Similar results are found for EC in PM₁₀. Winter average is 2.27 $\mu\text{g}/\text{m}^3$ (95% CI = 0.21 $\mu\text{g}/\text{m}^3$), compared with 1.34 $\mu\text{g}/\text{m}^3$ (95% CI = 0.07 $\mu\text{g}/\text{m}^3$) in other seasons.

X.4. Metals in TSP

Concentrations of selected metals in TSP in MATES IV, and their levels in MATES II and III, are shown in Figures X-7 to X-14.

Figures X-7 and X-8 show arsenic and cadmium concentrations. The average level of arsenic is 0.55 ng/m^3 , with higher levels at the inland areas. In Inland Valley San Bernardino, the average level is 0.91 ng/m^3 . In Rubidoux, the higher average of 0.76 ng/m^3 is driven by a spike of 6.34 ng/m^3 on July 14, 2012. Most measured elements recorded a considerably higher concentration (> 4 times higher than average) on that day. Note that the lower arsenic levels relative to MATES II is partly driven by the lower detection limits in the current study. The average concentration of cadmium is 0.16 ng/m^3 . Although MATES IV cadmium levels are considerably lower, these trends are largely due to the lower reporting limits for MATES IV (LOD = 0.08 ng/m^3), compared with the previous studies (LOD = 10 ng/m^3 for MATES II and 2 ng/m^3 for MATES III). Inland Valley San Bernardino records higher cadmium levels at an average of 0.28 ng/m^3 , followed by Central Los Angeles at 0.25 ng/m^3 . With the exception of Central Los Angeles and the two inland sites, cadmium levels are usually higher in winter than other seasons.

Figure X-9 shows the decline of lead, and the trend is consistent at all sites. Average lead concentration is 6.21 ng/m^3 , which is 50% lower than MATES III and 75% lower than MATES II. Inland Valley San Bernardino records higher lead levels at an average of 9.80 ng/m^3 , followed by Huntington Park at 9.46 ng/m^3 . The highest daily lead concentration of 81.7 ng/m^3 is observed at Huntington Park on February 15, 2013. All measured concentrations are below the Ambient Air Quality Standard of lead at 1,50 ng/m^3 .

Nickel and vanadium concentrations are shown in Figures X-10 and X-11. Compared with MATES III, vanadium reduces by 68% across the 10 sites, with higher reductions at Anaheim (80%), North Long Beach (78%) and West Long Beach (83%). The reduction of nickel is 36%, and the decline is again more pronounced at West Long Beach (67%), Anaheim (59%) and North

Long Beach (50%). Ni and V are impurities of bunker and fuel oil used in ships (Krudysz et al., 2008). Their declines at Long Beach suggest potential emissions reduction from ports activity. On the other hand, average nickel and vanadium concentrations are similar between MATES III and MATES IV at the two inland locations (Rubidoux and Inland Valley San Bernardino). Given their reductions at Long Beach, the higher levels at the inland sites suggest soil and road dust as a significant source of Ni and V in TSP. Nickel concentration is highest (avg. = 5.40 ng/m³) at Huntington Park, which is largely driven by a few data points in winter, as reflected in the higher confidence interval. With the exception of the two inland sites, winter nickel levels are higher than or similar to those of summer. Vanadium in fine PM could originate from oil combustion and industrial activities, while street and road dust is another source for coarser particles (Pakbin et al., 2011). Except for Anaheim, the level of vanadium is about two to four times higher in August (avg. = 9.05 ng/m³) than other months. Vanadium started to increase in late July, reached its peak in August, and declined in early September. Similar temporal trend is observed for other elements, namely, titanium, strontium, potassium, iron, molybdenum, copper, calcium, barium and zinc. Higher levels of windblown dust are usually observed in warmer months due to the stronger wind and lower relative humidity. The higher monthly concentration of vanadium and other crustal elements in August across the Basin could result from dust re-suspension.

Figure X-12 shows hexavalent chromium concentrations. In MATES II, half of the PM samples were analyzed by ARB and half were analyzed by SCAQMD. The ARB laboratory had higher method detection limits for hexavalent chromium, likely resulting in the lower reported concentrations than the SCAQMD samples. For comparison purposes, only results from the SCAQMD laboratory analyses are shown. Site-wide average hexavalent chromium level is 69% lower compared to MATES III. Winter levels are generally higher than other seasons. In particular, Compton and Huntington Park recorded higher concentrations on February 27, 2013, at 0.85 and 1.80 ng/m³, respectively. In MATES III, staff identified cement production as a source of elevated levels of hexavalent chromium near the Rubidoux site. In the current study, the annual average at Rubidoux is 0.041 ng/m³, lower than the levels at MATES III (avg. = 0.39 ng/m³) and the site-wide average of 0.056 ng/m³ in the current study.

Figures X-13 and X-14 illustrate the average level of selenium and manganese, both of which are in the EPA original list of hazardous air pollutants. In MATES III, all measured selenium levels were under the method detection limits of 2 ng/m³. For MATES IV, the average concentration is 0.82 ng/m³, with higher levels at Huntington Park (avg. = 1.67 ng/m³). The average concentration of manganese is 22.4 ng/m³. The highest average level is observed at Inland Valley San Bernardino (52.0 ng/m³), followed by Rubidoux (33.0 ng/m³). Overall, the reduction of manganese (28% relative to MATES III) is not as significant as other metals examined in this section. Manganese is an element in the upper continental crust. The high correlations (R² range from 0.60 to 0.93) between manganese and titanium, a dust tracer, suggesting that manganese in TSP primarily originates from crustal materials in this Basin. To examine the relative contributions of anthropogenic vs. crustal origins of manganese, crustal enrichment factors (CEFs) are calculated using the reference element of titanium. In brief, the level of observed manganese is divided by the level of observed titanium in this study, which is then normalized to the average abundance of manganese in the upper continental crust (UCC) obtained in Usher et al. (2006). Note that this calculation is typically conducted in reference to

aluminum, which is not quantified in TSP in this study. CEF > 10 is indicative of anthropogenic sources. Across the 10 sites, the average CEF range from 1.8 to 2.5. The highest CEF (10.9) is found at Compton on March 17, 2013. At the inland sites, all CEFs are below 5.

X.5. References

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*Error bars in the charts denote 95% confidence interval

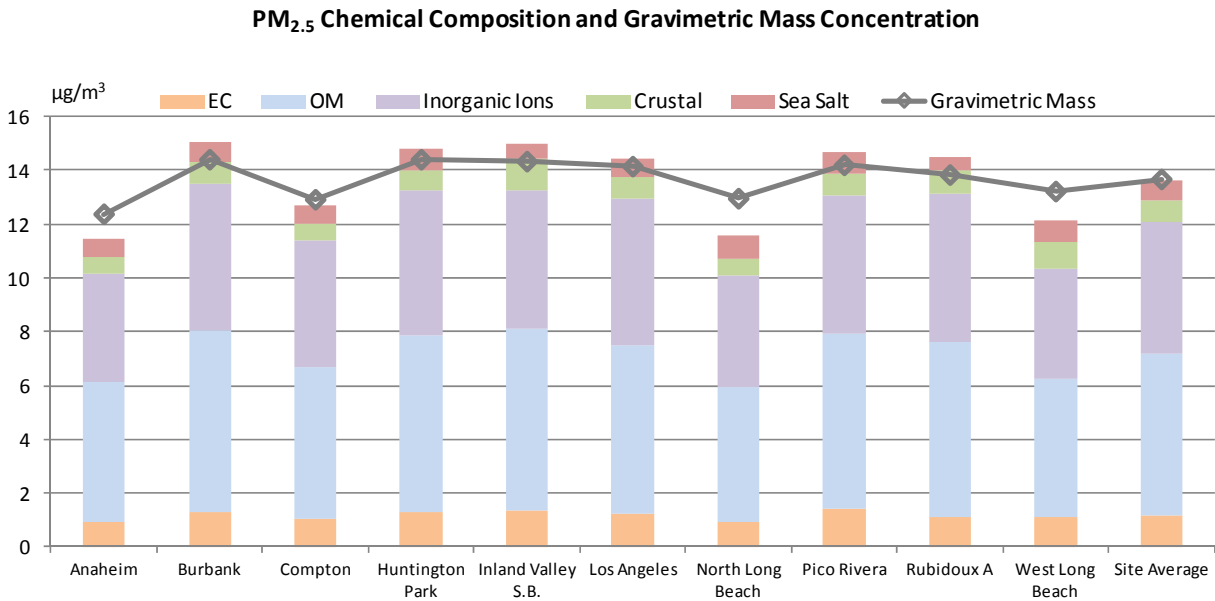


Figure X-1 Annual Average Chemical Composition and Gravimetric Mass Concentrations in PM_{2.5}

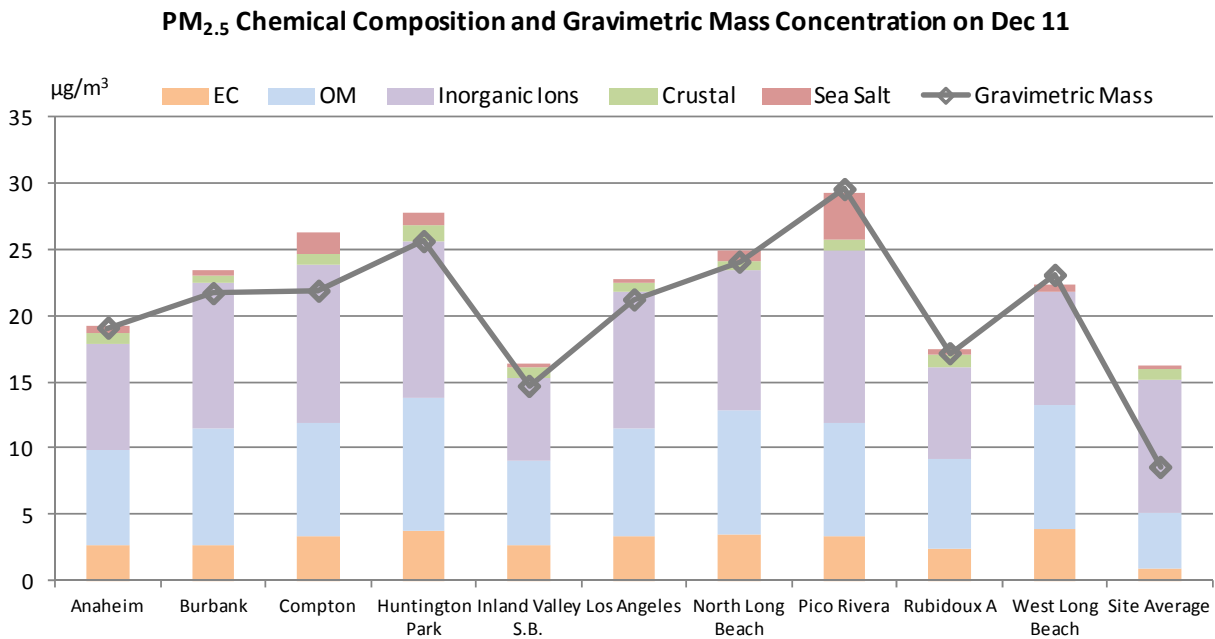


Figure X-2 Chemical Composition and Gravimetric Mass Concentrations in PM_{2.5} on December 11, 2012

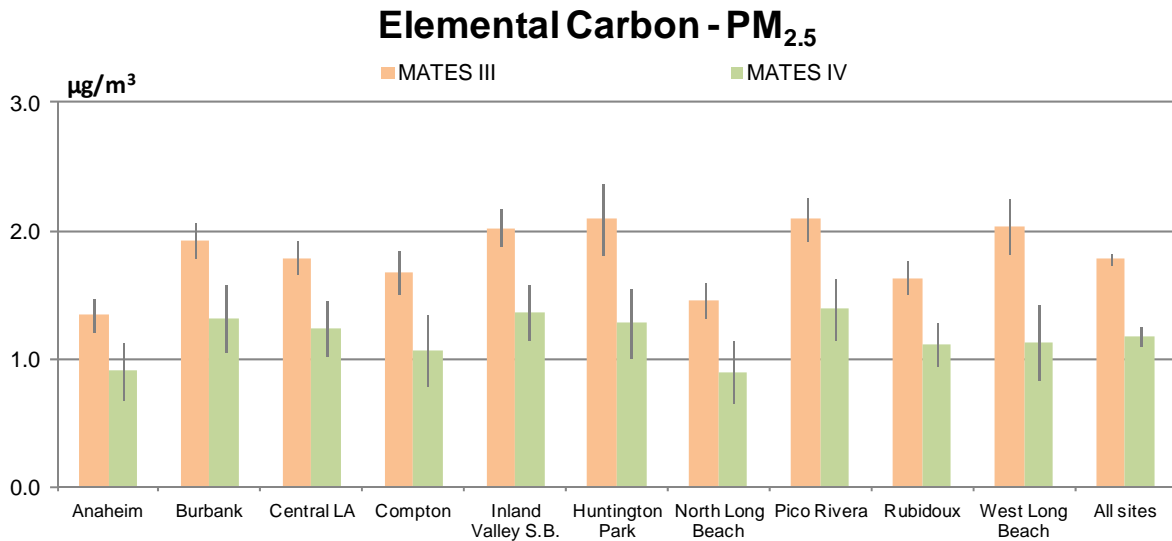


Figure X-3 Average Concentrations of Elemental Carbon in PM_{2.5}

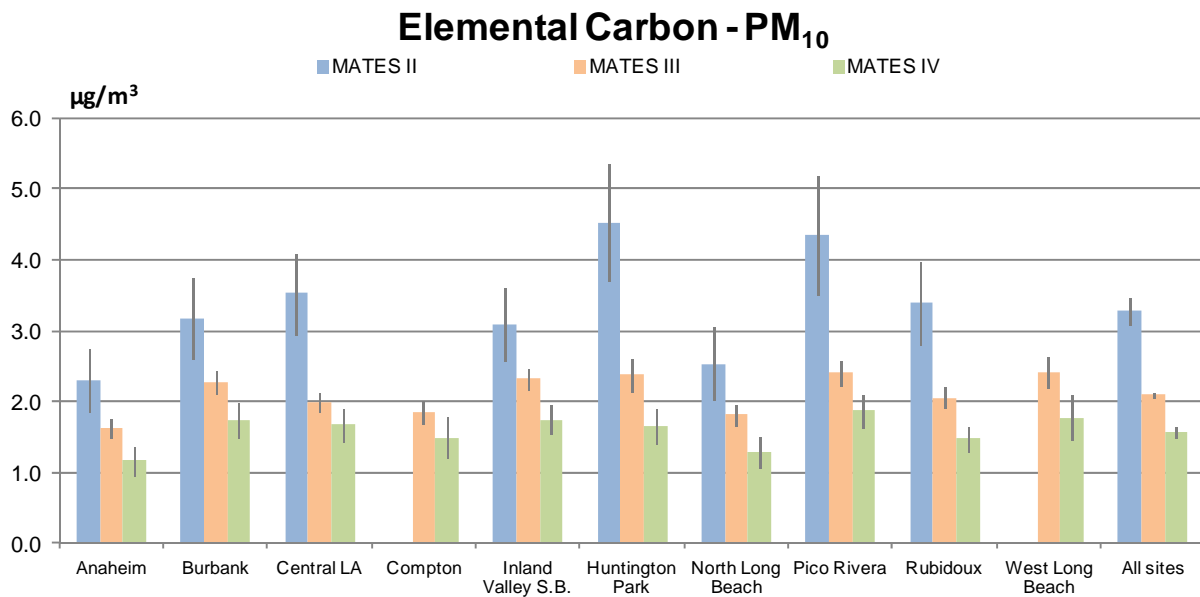


Figure X-4 Average Concentrations of Elemental Carbon in PM₁₀

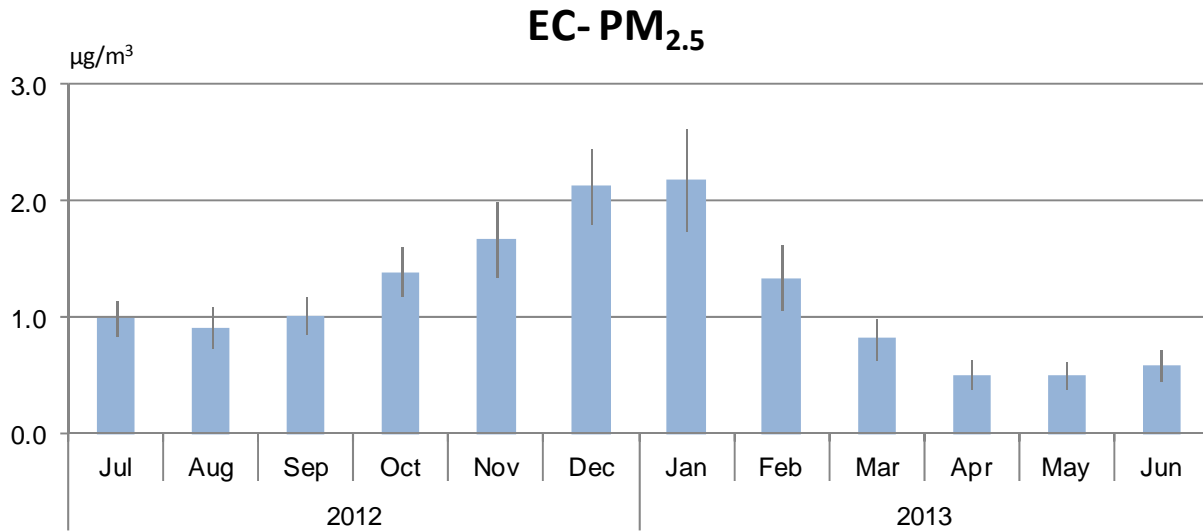


Figure X-5 Monthly Average Concentrations of Elemental Carbon in PM_{2.5}

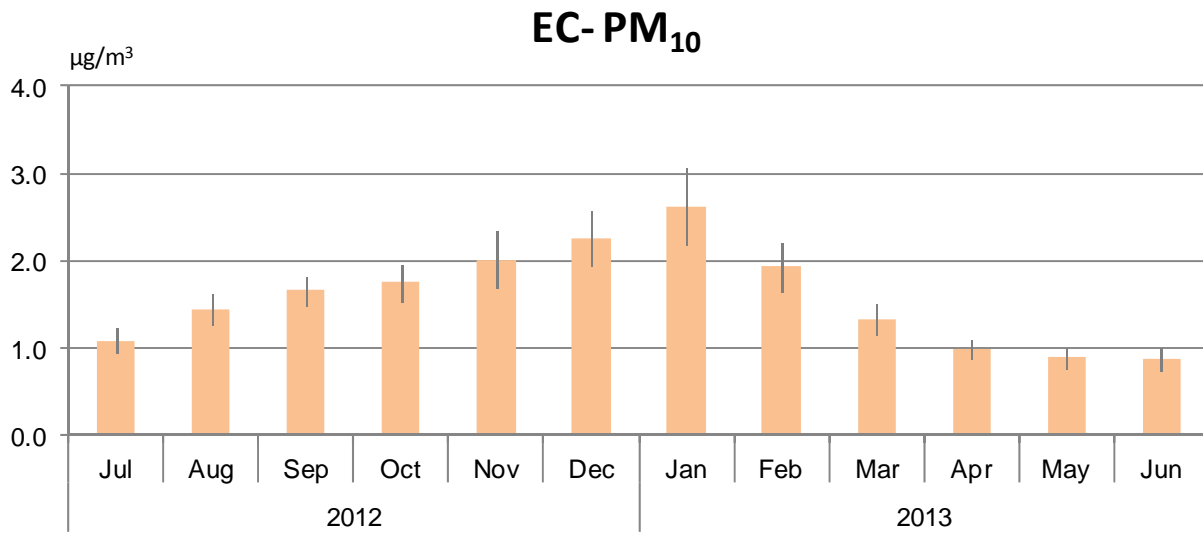


Figure X-6 Monthly Average Concentrations of Elemental Carbon in PM₁₀

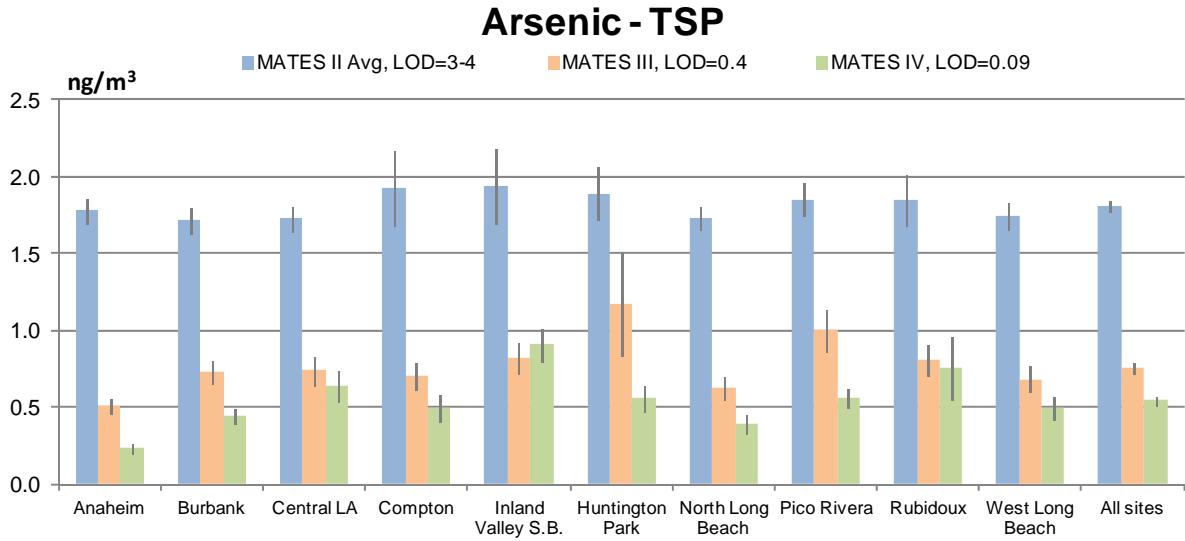


Figure X-7 Average Concentrations of Arsenic in Total Suspended Particulate (TSP)

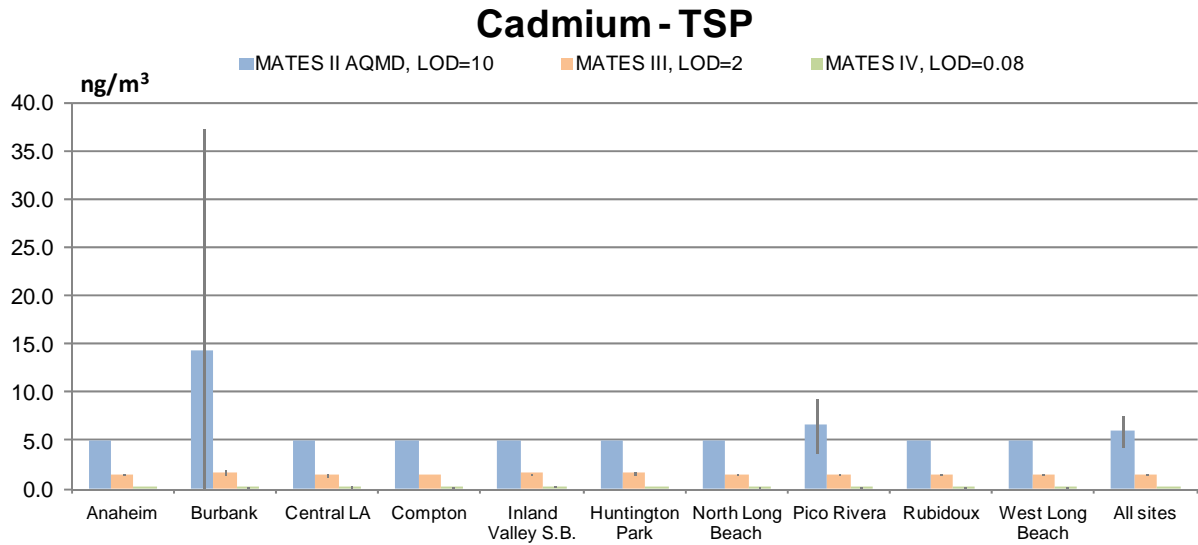


Figure X-8 Average Concentrations of Cadmium in Total Suspended Particulate (TSP)

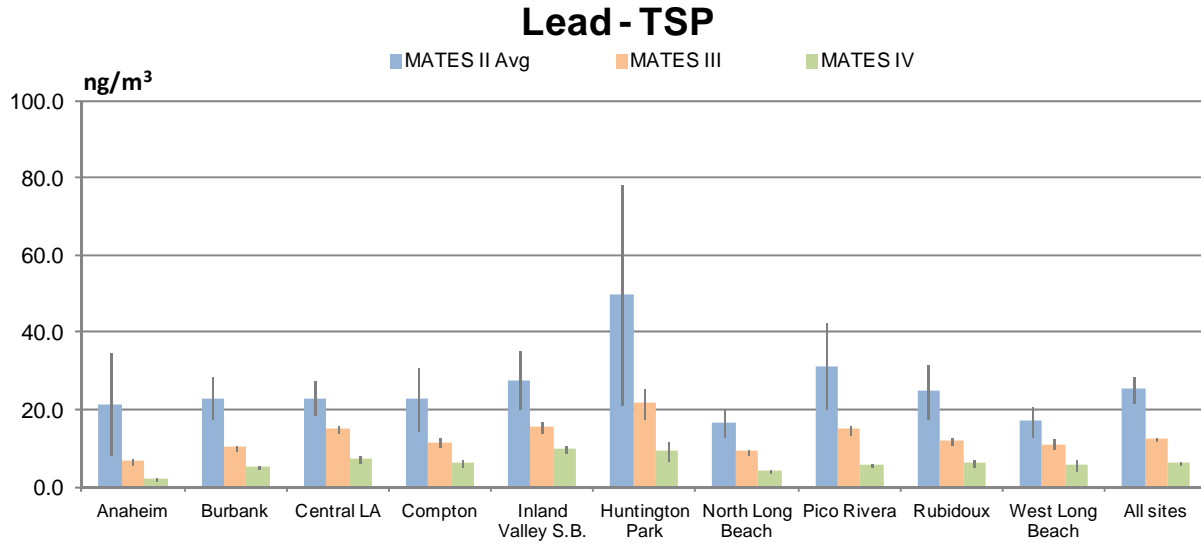


Figure X-9 Average Concentrations of Lead in Total Suspended Particulate (TSP)

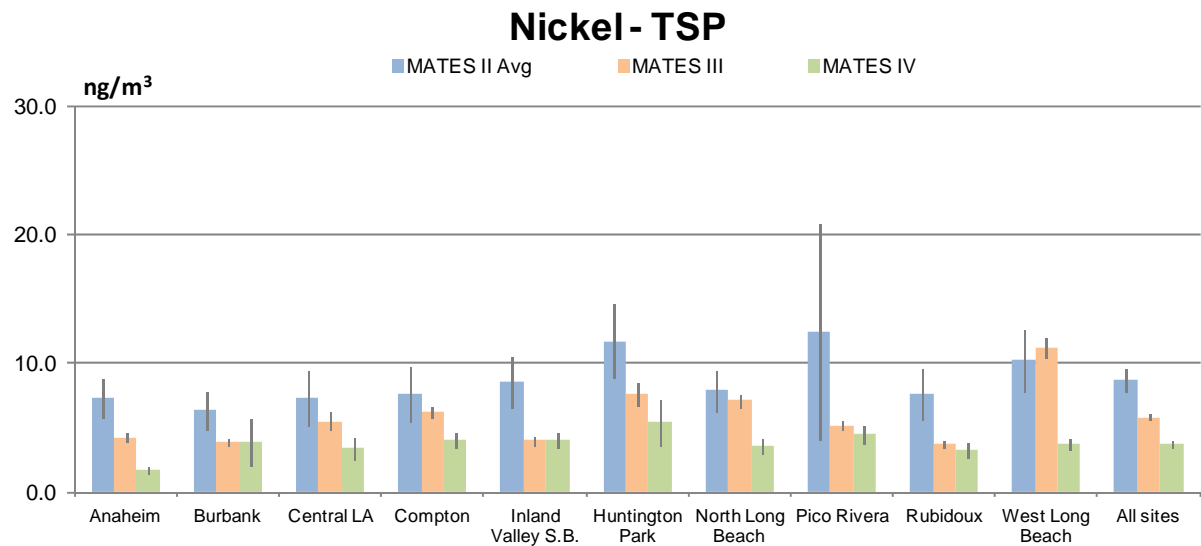


Figure X-10 Average Concentrations of Nickel in Total Suspended Particulate (TSP)

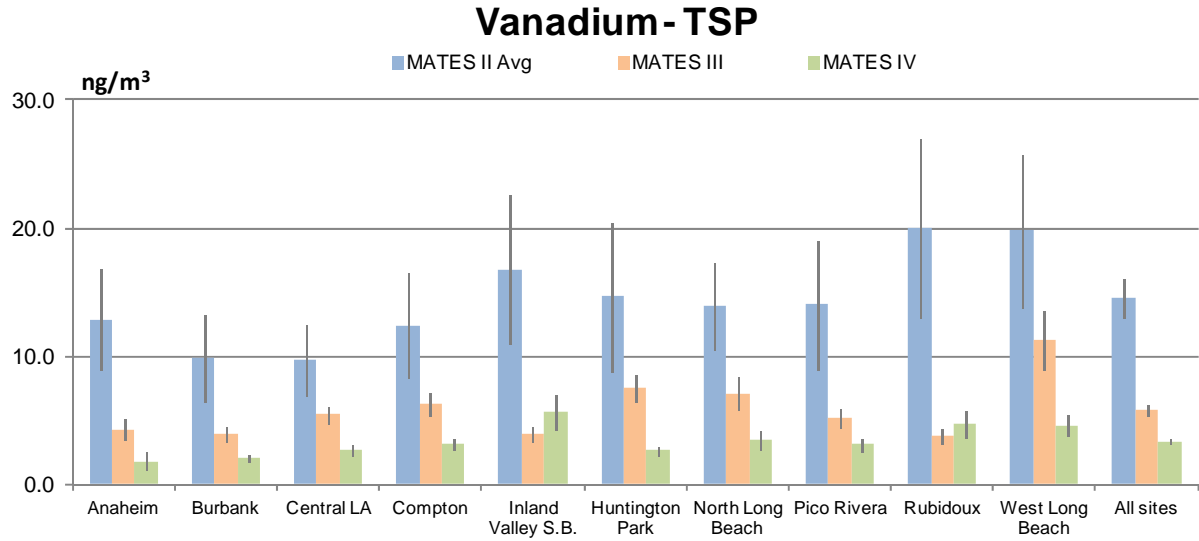


Figure X-11 Average Concentrations of Vanadium in Total Suspended Particulate (TSP)

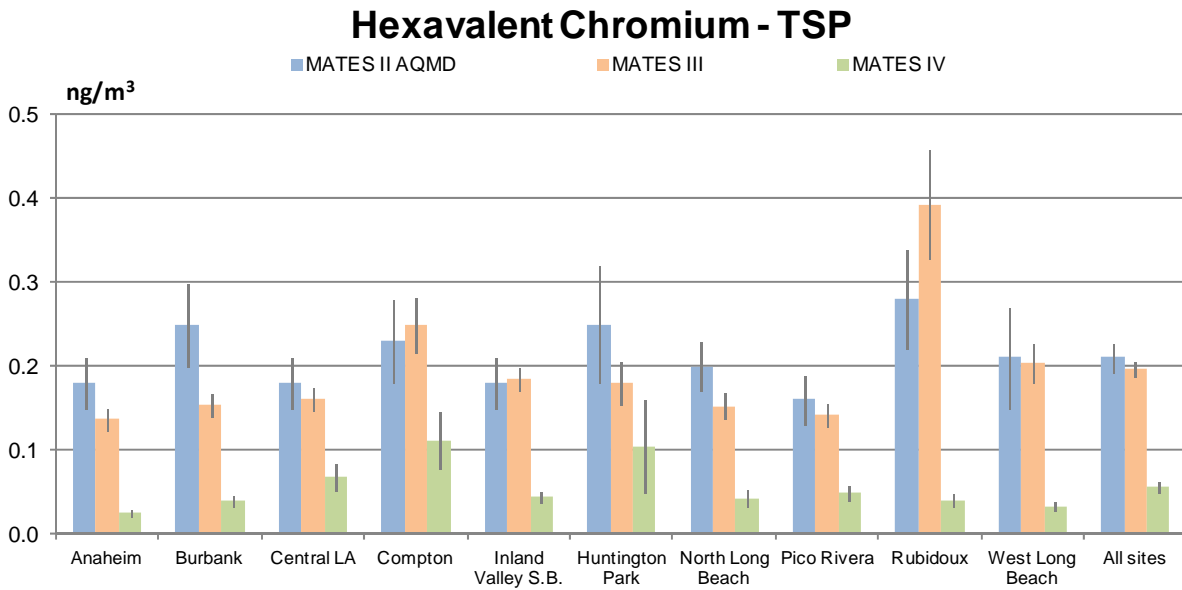


Figure X-12 Average Concentrations of Hexavalent Chromium in Total Suspended Particulate (TSP)

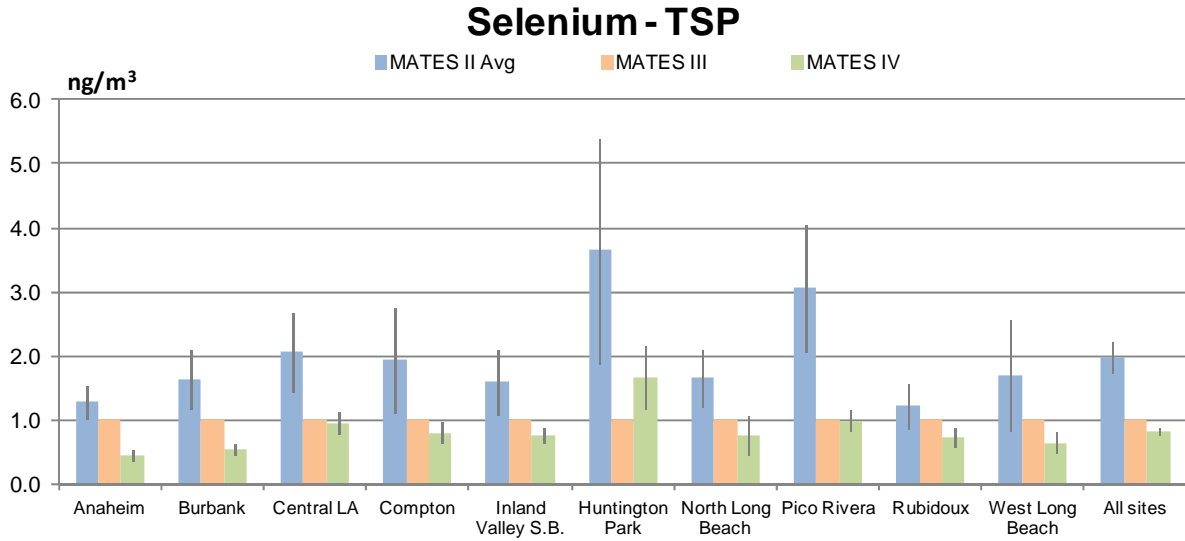


Figure X-13 Average Concentrations of Selenium in Total Suspended Particulate (TSP)

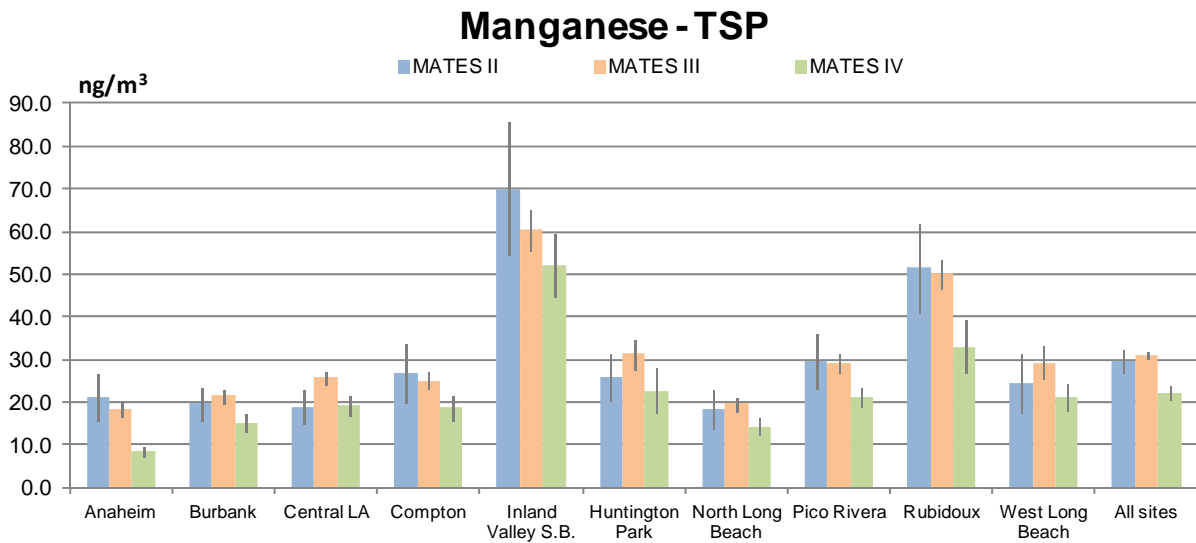


Figure X-14 Average Concentrations of Manganese in Total Suspended Particulate (TSP)

APPENDIX XI

MATES IV

DRAFT FINAL REPORT

Estimating Diesel Particulate Matter

Authors

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Appendix XI. Estimating Diesel Particulate Matter

XI.1. Introduction

Ambient diesel PM concentrations cannot be measured directly, but were estimated using ambient EC measurements multiplied by the ratio of diesel particulate matter (DPM) to elemental carbon (EC) based on the emissions inventory. The ratio estimated for MATES IV is 0.81, which is smaller than a ratio of 1.95 found in MATES III. This chapter describes factors contributing to this change and uncertainties associated with the estimates.

XI.2. Methodology

The ratio of diesel particulate matter (DPM) to elemental carbon (EC) can be rewritten, under well-mixed atmospheric conditions,

$$Ratio = \frac{DPM_{total}}{EC_{total}} = \left(\frac{PM_{diesel}}{EC_{diesel}} \right) \cdot \left(\frac{EC_{diesel}}{EC_{total}} \right). \quad [1]$$

The first term, the ratio of PM from diesel to EC from diesel is determined by the combined speciation profiles of all diesel PM sources, which provides the fraction of each PM species including EC, organic matter, sulfate, nitrate and others. The speciation profiles used in MATES IV were significantly different from those used in MATES III. In the new PM speciation profile, which was developed based on recent dynamometer experiments and comprehensive source testing, heavy-duty diesel trucks have an EC fraction ranging from 23% to 68% depending on engine model year, emission control technology, driving cycle, etc. An example of the new speciation profile from heavy duty diesel truck is presented in Figure XI-1, which shows EC fraction as a function of calendar year. It increases from 50% for calendar year 2005 to 56% in 2010. Calendar year fleet is an aggregated fleet composed of various engine model years, technology groups, fuel types, operating conditions, etc.

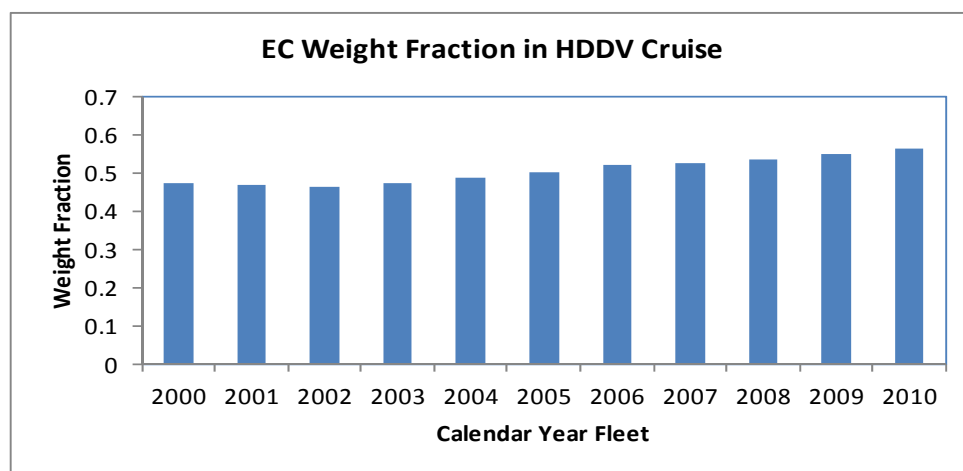


Figure XI-1. The EC fraction by weight from Heavy Duty Diesel Vehicles Exhaust in Cruise mode

On the contrary, the MATES III inventory was developed using a diesel profile based on source tests conducted on diesel tractors more than 20 years ago (Houck 1989, CARB 2008). In addition, only one speciation profile was applied to all diesel fueled mobile source categories, regardless of the fleet type, operating condition, engine technology, etc. However, at the time of MATES III, this profile was considered state-of-the-science. This PM profile assumes that 26.4% of total diesel exhaust is EC, while the MATES IV profile for heavy-duty vehicles has closer to 50% EC (Figure XI-1).

A majority of diesel emissions come from heavy-duty diesel trucks, diesel buses, ocean-going vessels, and off-road equipments categories, as shown in Table XI-1. These categories account for approximately 92% of total DPM emission in the Basin. Corresponding EC fractions and DPM/EC ratios are presented as well.

Note that the total DPM/EC ratio is an average of category specific DPM/EC ratios weighted by DPM mass from the category. So shifts among relative emissions from all diesel sources will also change the total combined speciation profile.

Some of the changes in the DPM/EC ratio could result from recent regulatory actions. Changes in PM speciation from OGV show the impact of such actions. During the period between the MATES III and MATES IV, OGV fuel regulation by California Air Resources Board became effective. The regulation requires OGVs to switch from heavy fuel oil (HFO, 1.0-2.5% sulfur content) to distillate marine diesel oil (MDO) of ~0.1% sulfur within 200 nautical miles of California coast. This requirement decreased sulfate in diesel exhaust more effectively than the other components including EC. In fact, replacement of 2.5% HFO marine fuel to 0.1% MDO marine fuel leads to a decrease in sulfate emissions of almost one-half while EC emissions remain nearly constant (CARB, 2012). The reduction in DPM emissions is well reflected in the MATES IV inventory (Table XI-1).

In all, the changes in the speciation profiles along with shifts in the relative amount of DPM

emission from different diesel sources led to a lower value of the 1st term in Eq [1].

Table XI-1. Emissions for major DPM/EC source categories, total anthropogenic sources for the South Coast Air Basin and percentage change of DPM and EC from 2005 to 2012

Category	2005			2012			Changes	
	DPM (lb/day)	EC (lb/day)	DPM/EC Ratio	DPM (lb/day)	EC (lb/day)	DPM/EC Ratio	DPM (%)	EC (%)
Diesel Heavy Duty Trucks & Buses	19596	5231	3.75	9816	5298	1.85	49.91	-1.29
Other On-Road	795	3233	0.25	134	1340	0.10	83.12	58.54
Ocean Going Vessels	10365	415	25.00	990	60	16.39	90.45	85.43
Off-Road Equipment	21567	6207	3.47	5275	3865	1.36	75.54	37.72
Other Off-Road	2614	1720	1.52	2208	1670	1.32	15.55	2.88
Total Stationary and Area Sources	1045	11957	0.09	444	10928	0.04	57.55	8.60
Total Anthropogenic	55983	28761	1.95	18867	23163	0.81	66.30	19.47

The last term in Eq [1] represents the amount of diesel EC relative to the total EC emissions based on the Basin-wide inventory. The total EC, EC_{total} in Eq [1] can be split into diesel originated EC and non-diesel EC. In the Basin, the diesel EC accounts for the majority of total EC (64%). Non-diesel EC from sources such as biomass burning, cooking, residential fuel combustion, explain 36% of the total. While EC emissions from both diesel and non-diesel categories decreased between the MATES III and MATES IV, the reduction is more pronounced in the diesel category (24% reduction in diesel EC vs. 10% in non-diesel sources). A portion of changes in the non-diesel sources were driven by socio-economic growth in the Basin. Cleaning and Coating processes and Petroleum Production and Marketing categories are among those that have led to additional EC emissions between the MATES III and MATES IV period. This change in total EC decreased in the 2nd term of Eq [1]. Therefore, the overall ratio was decreased from the MATES III to MATES IV.

XI.3. Discussion and Summary

To estimate the impact of the updated speciation profile on measurements-based comparisons between the MATES III and MATES IV results, EC emissions from major diesel source categories in the MATES IV inventory were re-calculated using the older MATES III speciation profile, in which EC accounts for 26.4% of DPM. This retrospective calculation was applied to heavy-duty diesel trucks, diesel buses, off-road equipment, and farm equipment (Table XI-2).

The retrospective calculation yielded 23% less total anthropogenic EC emissions with most of the difference coming from the mobile source category. This is consistent with a ~30% reduction of EC from traffic emissions in LA and Riverside counties from the 2002-2006 to the 2008-2012 period as determined by source apportionment study (Hasheminassab, et al. 2014).

The overall DPM/EC ratio from this sensitivity calculation was 1.06 and thus the overall average ambient DPM concentration was estimated to be 1.24 ug/m³ (1.17 ug/m³ basin-wide averaged measured ambient EC concentration during MATES IV, multiplied by the ratio 1.06). Using the updated profiles in MATES IV with a DPM/EC ratio of 0.81 (Table XI-1), and the measured ambient EC of 1.17 ug/m³, the overall average DPM concentration is estimated to be 0.95 ug/m³.

This sensitivity test indicates that the effect of the speciation methodology change between MATES III and MATES IV is an overall lower estimated DPM concentration from 1.24 to 0.95 ug/m³. This difference can be viewed in terms of the estimated DPM reductions based on EC measurements between MATES III (2005) and MATES IV (2012). Using the updated profiles for MATES IV and the previously published MATES III results using the older profiles, the basin-wide average reduction in DPM is 73% as cited in this report. Using the older speciation profiles for both MATES III and MATES IV yields a 2005 to 2012 DPM reduction of 64.3%. Thus, the methodology changes in the DPM speciation profile account for at most about 9% of the total stated 73% stated DPM reduction. It is also worth of note that, despite the uncertainties associated with emission inventory and measurements, the estimated DPM concentration stays within 25% of variation.

Note that the effect of this speciation methodology change only affects MATES III vs. MATES IV comparisons between estimated DPM based on EC measurements. Comparisons between 2005 and 2012 based on inventories and modeling results are not affected by the EC speciation profiles as DPM is estimated directly. Furthermore, given that the speciation profiles used in MATES IV are more recent and applied in a more detailed manner, the MATES IV results represent a refined analysis that is likely an improvement over the MATES III methods.

Table XI-2. Estimation of EC fractions from major diesel sources using the MATES III profile

Category	MATES IV			Using MATES III profile	
	DPM (lb/day)	EC (lb/day)	DPM/EC Ratio	EC (lb/day)	DPM/EC Ratio
Diesel Heavy-Duty Trucks & Buses	9816	5298	1.85	2594	3.78
Other On-Road	134	1340	0.10	1340	0.10
Ocean Going Vessels	990	60	16.39	60	16.39
Off-Road Equipment	5275	3865	1.36	1394	3.78
Other Off-Road	2208	1670	1.32	1453	1.52
Total Stationary and Area Sources	444	10928	0.04	10928	0.04
Total Anthropogenic	18867	23163	0.81	17771	1.06

The DPM/EC ratio discussed above is the basin average, yet the ratio can change from location to location depending on the dominant emission categories. The geographical variation of the ratio was evaluated using CAMx model output, which calculates atmospheric transport and mixing as well as chemistry and removal processes. The average of the predicted DPM/EC ratio is approximately 0.87 with a standard deviation of 0.06, indicating spatial variations were

relatively small. Still, the ratio was higher near coastal sites and lower in inland regions, confirming the geographical dependency of diesel exhaust compositions. Non-diesel EC sources, such as biomass burning, partially contributed to the lower ratio in the inland areas, as well.

Overall, the DPM/EC ratio estimated in the current MATES IV is 0.81, significantly lower than 1.95 calculated in the MATES III. Several factors that contributed to this change include the revision of diesel exhaust profiles that provide more refined and detailed speciation data. Secondly, regulatory actions reduced some components of PM species more effectively than EC. In addition, changes in social demographics contributed to the changes of diesel originated EC to the total EC emissions, and consequently lowered the DPM/EC ratio.

XI.2 References:

California Air Resources Board, Main Speciation Profiles. In May 19, 2008 ed.; California Air Resources Board: 2008.

California Air Resources Board, Heavy Duty Diesel Vehicle Exhaust PM Speciation Profiles, Available at the following URL,
<http://www.arb.ca.gov/ei/speciate/profilereference/HDDV%20PM%20Profiles%20Final.pdf>

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MATES IV Comments
(Comment Period: October 3, 2014 – January 2, 2015)

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Department of Defense

From: Joe Lyou <joe@ccair.org>

Date: October 6, 2014 11:47:50 AM PDT

To: "Barry Wallerstein (bwallerstein@aqmd.gov)" <bwallerstein@aqmd.gov>

Subject: MATES IV

I was just reading the draft MATES IV report, pp. 5-14 to 5-15, re speculation that I-405 Freeway traffic emissions may have contributed to the elevated UFP concentrations at site 8.

The LAX Air Quality Source Apportionment Study includes evidence that the freeway did not influence UFP concentrations measured east of the freeway. Specifically to address this question, the researchers collected simultaneous measurements downwind of the runway and the same distance from the freeway about a mile and a half south of the runway. See [Phase III of the LAX AQSA Study](#), pp. 5-99 to 5-113.

The results showed that the elevated UFP concentrations could be attributed to aircraft, not the freeway. The language on pp. 5-14 to 5-15 of MATES IV should be revised to acknowledge the LAX AQSA study finding and suggest instead that, while the freeway could be a source of UFP, existing evidence shows that the elevated concentrations result from aircraft.

Joe

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From: [Pettit, David](#)
To: [Philip Fine](#)
Cc: [Leben, Danielle](#); [Jean Ospital](#)
Subject: RE: MATES IV draft
Date: Wednesday, October 08, 2014 5:27:21 PM

Thanks.

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From: Philip Fine [mailto:pfine@aqmd.gov]
Sent: Wednesday, October 08, 2014 5:26 PM
To: Pettit, David
Cc: Leben, Danielle; Jean Ospital
Subject: RE: MATES IV draft

Good suggestions. You are reading table IX-5 correctly.

-Phil

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From: Pettit, David [mailto:dpettit@nrdc.org]
Sent: Wednesday, October 08, 2014 3:54 PM
To: Philip Fine
Cc: Leben, Danielle; Jean Ospital; Pettit, David
Subject: RE: MATES IV draft

Phil, I think that those are good comparisons for the public to see, and you might want to think about a comparison with local GDP also.

A question on the draft: do I read Table IX-5 correctly as setting out modeled vs observed data for 2012-2013 for the locations listed?

Thanks.

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From: Philip Fine [<mailto:pfine@aqmd.gov>]
Sent: Tuesday, October 07, 2014 1:54 PM
To: Pettit, David
Cc: Leben, Danielle; Jean Ospital
Subject: RE: MATES IV draft

Since the MATES studies are just single year snapshots, it is hard to do a regression analysis with just two or three data points. The total combined ports container throughput in 2005 (MATES III) was about 14.2 million TEU vs. 14.1 million TEU in 2012 (MATES IV). So with similar throughput, the risks have dropped significantly.

We have also looked at container throughput vs. ambient Elemental Carbon (a marker for diesel PM which drives most of the risk) levels over time. It shows that since the 2009 recession period, container throughput at the ports has increased while Elemental Carbon has significantly decreased.

Let me know if you have any suggestions for additional analyses that could be conducted related to this.

-Phil

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From: Pettit, David [<mailto:dpettit@nrdc.org>]
Sent: Tuesday, October 07, 2014 1:00 PM
To: Philip Fine
Cc: Leben, Danielle; Pettit, David

Subject: MATES IV draft

Phil: I'm reading through the MATES IV draft and I wondered if the District has run a regression analysis against POLA and POLB throughput to see what effect, if any, higher or lower throughput has had on cancer risk.

David

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From: Constantinos Sioutas [<mailto:sioutas@usc.edu>]

Sent: Saturday, November 01, 2014 3:29 PM

To: Jean Ospital; Marilyn Traynor

Cc: Philip Fine; Andrea Polidori

Subject: Re: MATES IV Technical Advisory Group meeting at 1:00 p.m. on November 6, 2014 @ SCAQMD in Conference Room GB

Given the significance of traffic sources in our basin, and the fact that you/AQMD use EC as a marker of carcinogenic diesel emissions, I attach our latest paper in which we used PMF on the speciation network data from 2002-2012 to do source apportionment, and showed that in LA and Riverside counties, the traffic emissions were reduced from the 2002-2006 to the 2008-2012 period by ~30% (a very impressive number) following the 2007 emission standards ; this was despite an actual increase in overall traffic volume in the post standard period. This is very relevant to the work presented in your draft document and corroborates the effectiveness of the emission standard

Please use the paper “Long-term source apportionment of ambient fine particulate matter (PM_{2.5}) in the Los Angeles Basin: A focus on emissions reduction from vehicular sources,” authors Hasheminassab, Daher, Ostro, Sioutas (Environmental Pollution 193 (2014) 54-64) for your reference and let me know if you have any comments

CS

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November 3, 2014

VIA E-MAIL

Dr. Jean Ospital
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Re: EMA's Comments on Draft MATES-IV Report

Dear Dr. Ospital:

The Truck and Engine Manufacturers Association (EMA) hereby submits the following comments and recommendations regarding the draft report of the Multiple Air Toxics Exposure Study (MATES-IV) that was released for public comment on October 3, 2014. EMA is the trade association that represents the world's leading manufacturers of heavy-duty trucks, as well as the leading manufacturers of internal combustion engines utilized in a wide variety of other mobile and stationary applications. One of EMA's core functions is to represent its 29 member companies in working with the United States Environmental Protection Agency, the California Air Resources Board, and other state and local agencies on a broad range of air quality issues and initiatives. In that role, EMA has been involved in reviewing and commenting on the SCAQMD's MATES initiative since the issuance of the first MATES report.

In its MATES-IV draft report, the South Coast Air Quality Management District (SCAQMD) states that it has used the same monitoring, modeling, and risk assessment methods that were used in the previous three MATES reports. The draft report acknowledges the shortcomings and caveats regarding those methods, and in particular the uncertainties in estimating ambient levels of diesel particulate matter (diesel PM) and actual human exposure to air toxics, as well as the uncertainties in interpreting the estimates of cancer health risks. These uncertainties are significant, since, as acknowledged in the draft report, the real value to the public of the MATES-IV report stems from its ability to document and communicate clearly and accurately the long-term trends of reduced air toxics in the South Coast Air Basin.

In general, EMA has no new comments on the methodologies or analyses used in the MATES-IV draft report. That said, we remain in fundamental disagreement with the Elemental Carbon/Organic Carbon (EC/OC) apportionment method used in MATES, and also continue to believe that the unit risk factor (URF) applied for diesel PM is not based on sound science, stemming as it does from flawed dose-response assumptions derived from the 1987 and 1988 Garshick, et al. studies of railroad workers. We also are very concerned that EMA was excluded from the MATES technical advisory committees, and that, in fact, no industry representatives were included on that committee. That basic lack of industry representation calls into question the objectivity of the MATES-IV report, and needs to be addressed.

With those long-standing objections in mind, EMA offers the following specific recommendations and suggestions regarding the presentation and reporting of the MATES-IV results, with emphasis on the draft report's discussion of the emission of diesel PM and other air toxics from mobile sources.

The MATES-IV Report does not adequately convey the very significant reductions in ambient levels of air toxics or the successful efforts to reduce air toxics risk in the South Coast Basin.

As noted above, the most significant public benefit from the periodic MATES reports is providing accurate and up-to-date information regarding the long-term trends in air quality in the South Coast Air Basin, and, in particular, the downward trends in ambient levels of air toxics. In that regard, the air toxics monitoring and modeling completed as part of MATES-IV demonstrate that there have been very significant reductions in ambient levels of air toxics between 2006 (MATES III) and 2013 (MATES-IV). For example, estimated Basinwide risk has decreased from 1,194 per million in 2006 to 418 per million in 2013, based on the fixed-site monitoring data. Similarly, modeled risk estimates have decreased from 853 per million in MATES III to 367 per million in MATES-IV. Equally significant, estimated average concentrations of diesel PM in the Basin have decreased from approximately 3.5 ug/m³ in 2006 to less than 1.0 ug/m³ in 2013, and the estimated risk attributable to diesel PM has declined by 70% (or more) over that time period. Equivalent reductions can be seen for all other air toxics as well. Reductions in levels of ambient air toxics are even greater if compared to the earlier MATES reports (MATES-I and MATES-II), although the results may not be directly comparable due to changes in certain measurement methods. All of those trends are very positive, and are testaments to the fact that the current programs to promote advanced emission-control technologies, especially ultra-clean new-technology diesel engines and vehicles, are working.

Although the overall results of the MATES-IV draft report are contained in the Executive Summary, the draft report does not place sufficient emphasis on the remarkable reductions in air toxics that have been achieved. The reductions in ambient levels of air toxics, and therefore the reductions in exposures and estimated public health risk, are very significant accomplishments that need to be highlighted in the report. In its current format, the draft report does not present the most relevant information in a "user-friendly" manner that clearly shows the very significant reductions that have been achieved over the last seven years. The Executive Summary, as well as other portions of the report, needs to be revised to present and emphasize more fully the improvements in air quality that have been confirmed through the MATES-IV findings.

EMA has the following specific recommendations to improve the Executive Summary of the draft MATES-IV report to better convey the results of the study to the general public.

Page ES-4 Conclusion

The conclusion section of the Executive Summary should explain in more detail the very significant reductions in ambient levels of air toxics, as well as estimated cancer risk, in the Basin. To that end, the conclusion should provide a direct comparison of the current results with past studies showing the greater than 70% reduction in risk over the time period of the four MATES reports, highlighting the especially large reductions in diesel PM emissions (which have resulted from the development of ultra-clean new-technology diesel engines), and clearly indicating that all major air toxics are continuing to decline in a very significant manner. In essence, the conclusion needs to highlight the tremendous success of the regulatory programs to reduce air toxics and diesel PM in the Basin.

Page ES-5 Policy Implications

The discussion of policy implications states that remaining risks are unacceptably high, that OEHHA's revised risk calculation methods will make those risks appear higher, and that, as a result, there is a need for continued focus on air toxic reductions, particularly diesel PM. Rather than focusing on OEHHA's new modeling approach to assessing childhood exposures, however, the policy implications section should focus on the programs and regulations that are in place and that have contributed to the very large reductions in ambient air toxics, as confirmed in MATES-IV. In the case of diesel PM emissions, the existing suite of mobile source regulations has worked exceedingly well to reduce diesel emissions and hence exposure to diesel PM for all residents in the South Coast Air Basin. More specifically, the current EPA and CARB regulations governing emissions from on-highway and nonroad diesel engines have reduced PM emissions to essentially-zero levels. As the entire diesel fleet transitions to the new-technology diesel vehicles, the benefits of zero-PM emissions will continue to multiply across the Basin.

Thus, this section should acknowledge that the current regulations and incentive programs governing diesel emissions will continue to reduce the amount of diesel emissions and ambient concentrations of diesel PM below the levels identified in MATES-IV, which are already less than 1 ug/m³. Consequently, it should be stated that the existing programs in California are sufficient to reduce any health risks attributable to diesel PM to acceptable levels in the near future, and that the diesel PM issues have been essentially resolved, as evidenced in part, by the attainment demonstrations that have been made for the PM NAAQS in the South Coast Air Basin. Failing to mention the many positive aspects of the remarkable improvements and reductions in ambient air toxics, especially diesel PM, renders the draft MATES-IV report both incomplete and fundamentally misleading to the general public.

Page ES-7 Figures ES-2 and ES-3

Figure ES-2 should be revised to include a pie chart of the MATES-III results in addition to the current MATES-IV results to show, again, the very significant reductions in risk and to provide a better visual perspective of the changes between 2006 and 2013. The area of the pie charts should be proportional to the Basinwide risk estimates at the fixed monitoring sites. For example, the MATES-IV pie chart should be 70% smaller than the MATES-III pie chart.

In addition, a second bar chart should be added to the Executive Summary comparing the MATES-III and MATES-IV air toxics risks. The second chart should provide a comparison of the change in risk between the two studies and clearly show that risk have decreased from 1,200 in 2006 to 400 in 2013.

Page ES-8, Figure ES-4

Figure ES-4 presents the results of the estimated Basinwide risk for the MATES-IV modeling results. Although the changes in modeled risk between the two studies are presented in Figure ES-9, the impact of the significant reductions is not clear from the two figures. EMA recommends that an additional figure be added to the Executive Summary that shows the modeled risks from the MATES-III report. That figure should present the MATES-III results using the same color scheme and scale so that the reader can readily see and understand how the modeled concentrations and risks have been reduced so dramatically between the two study periods. Inclusion of the additional graphic will greatly enhance the lay reader's understanding of the positive changes that have occurred.

Additional Comments on Specific Sections of the Report

Page 1-3 Dose-Response Assessment

One topic that should be mentioned in this section, as well as in the other sections relating to diesel PM, is that the OEHHA Unit Risk Factor (URF) for diesel PM that is used in the reported risk calculations (which EMA continues to believe is flawed) is based on an assessment of exposures to emissions from uncontrolled diesel locomotive engines from the 1950s, 1960s and 1970s, prior to the development and deployment of modern emission-control technologies, including catalyzed diesel particulate filters (DPFs). New-technology diesel engines have completely different emissions profiles that are qualitatively and quantitatively different from the emissions assessed in developing the OEHHA unit risk factor. New-technology diesel engines are equipped with DPFs that reduce particulate matter emissions and hydrocarbons by over 99%. In addition, new-technology engine emissions no longer contain high levels of organic carbon or adsorbed hydrocarbons that were characteristic of the emissions from the 1950-1980 time frame.

Because there has been no re-evaluation of the URF to address the significantly different emissions profile of new-technology diesel engines, application of the "old" OEHHA risk value to today's diesel engines is not valid. This adds to the uncertainty of MATES-IV, and most

certainly overestimates the risk ascribed to diesel PM emissions in MATES-IV. This issue needs to be addressed.

One of the necessary additions to the MATES-IV report to address this critical issue is to highlight the discussion regarding new-technology diesel engines that the International Agency for Research on Cancer (IARC) included in its Monograph 105. See IARC Monograph 105: “Diesel and Gasoline Engine Exhausts and Some Nitroarenes.” More specifically, Monograph 105 includes the following conclusions regarding new-technology diesel engines, which conclusions should be stated in the body of the MATES-IV report to highlight the fact that the risks ascribed to diesel PM are being controlled and managed effectively:

To meet the most stringent current emission-control regulations, diesel engines must be designed and constructed according to modern technology, which includes wall-flow particulate filters and diesel oxidation catalysts, in combination with the use of diesel fuel that has a very low sulfur content. The new diesel engine technology has been shown to reduce particulate mass emissions by more than two orders of magnitude. Although the implications for carcinogenicity are not yet known, *the “new technology” diesel engines, due to their much lower emissions of particulate matter, will probably bring about an improvement with regard to public health.* It should be noted that the human epidemiological studies reviewed in this Monograph [and that underly the OEHHA URF] were conducted before the introduction of the modern diesel engine technology. (Monograph 105, p. 34, emphasis added.)

* * *

[E]vidence has also been found that exhaust aftertreatment can contribute to substantial reductions in the activity of extracts of diesel engine particulate matter or of exhaust semi-volatile organic compounds as expressed per unit of engine work or volume of emitted exhaust. No comparative data were available to the Working Group to evaluate the genetic and related effects of new-technology diesel exhaust. (Monograph 105, p. 457.)

Like IARC, the SCAQMD needs to acknowledge that the emissions from new-technology diesel engines are significantly different from earlier diesel technologies, that diesel PM levels are essentially zero, and that the old assumptions about the potential health effects of diesel emissions may no longer be applicable to assessments of current and, more especially, future risks.

Page 5-12 Summary of Fixed Sites

The discussion indicates that there are ongoing concerns that the application of advanced emissions control technologies to diesel engines has led to uncertainties regarding the potential

Dr. Jean Ospital
South Coast Air Quality Management District
November 3, 2014
Page 6

formation of ultrafine particles (UFPs). The issue stems from concerns that the new technologies may actually increase emissions of UFPs.

Notwithstanding that speculation, extensive emissions testing has shown that the use of DPFs and selective catalytic reductions systems actually reduces the number of fine particles emitted from new-technology diesel engines. EMA refers AQMD staff to the recently completed Phase 2 Report from the Advanced Collaborative Emissions Study (ACES), published by the Health Effects Institute and the Coordinating Research Council, for a comprehensive presentation on the dramatic reductions in particle mass and number (as well as all other air pollutants) from today's new-technology diesel engines. Thus, the statement regarding increased ultrafine and particle number emissions in the MATES-IV report is wrong, and should be removed from the text.

Page 5-13 Gradient Studies

The report refers to UFPs and black carbon (BC) as air toxics. Neither UFPs nor BC are considered or regulated as air toxic contaminants in California. The text of the MATES-IV report should be changed to reflect their correct classification throughout the document.

Conclusion

EMA appreciates the opportunity to offer the foregoing comments and recommendations on the MATES-IV Draft Report. Please do not hesitate to contact me should you have any questions regarding EMA's comments and concerns.

Very truly yours,

Joseph L. Suchecki

Joseph L. Suchecki
Vice-President, Public Affairs

From: Constantinos Sioutas [sioutas@usc.edu]
Sent: Wednesday, November 05, 2014 2:22 PM
To: Jean Ospital; Marilyn Traynor
Cc: Philip Fine; Andrea Polidori
Subject: Re: MATES IV Technical Advisory Group meeting at 1:00 p.m. on November 6, 2014 @ SCAQMD in Conference Room GB

Dear all

Few comments on the ultrafine section after reviewing your draft:

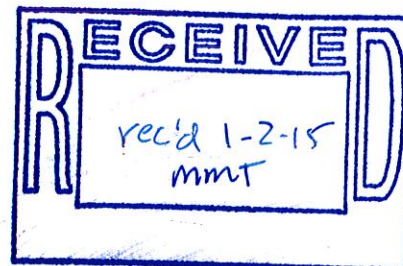
1. Overall a very fine job!
2. Please note that at least last time that I checked , the Appendix associated with the Ultrafine PM section is blank, it has no contents
3. Adding error bars in the plots and .or some metric of standard deviations or uncertainty in tables would make the presented data more defensible and the conclusions drawn more robust-this is a MUST in almost any scientific publications, as those you have been former members of my group know!
4. The use of a mobile or portable platform for freeway measurements , proposed as an upcoming activitiy, will add tremendous value to your work in characterizing exposures to UFP. I would even propose to devise a coherent sampling stately, currently missing in the draft, and I could even help you with it if need me to, whereby yo monitor by rotation different freeways every weekday, and/ or as many as you can afford depending on number of mobile platforms that you plan to employ . Regardless, I feel that knowing the freeway levels of UFP concurrently with measurements in stationary sites are essential in developing exposure models of these pollutants.
5. The elevated BC levels at the Inland Valley SB , not accompanied by equally high levels of UFP, are intriguing and require some further thoughts and investigation – are there any BC sources other than traffic in the area?
6. Fig 5-7 are these data averages across sites ? Here again SD/SE would be vey helpful
7. Same comment about figures 5-8 and 5-9 ;are these averages across sites? If so, error bars need to be added
8. The LAX pilot study is very well presented and in concert with our earlier work by Westerdahl, D., Fruin, S. A., Fine, P. L., & Sioutas, C. (2008). The Los Angeles International Airport as a source of ultrafine particles and other pollutants to nearby communities. *Atmospheric Environment*, 42(13), 3143-3155.

I think that is all for now - let me know if you have any additional questions, comments or requests

cs
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December 30, 2014



Dr. Jean Ospital
Health Effects Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765

Dear Dr. Ospital:

SUBJECT: COMMENTS ON THE DRAFT SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT MULTIPLE AIR TOXICS EXPOSURE STUDY (MATES IV) REPORT

The Ports of Long Beach and Los Angeles (Ports) appreciate the opportunity to comment on the Draft South Coast Air Quality Management District Multiple Air Toxics Exposure Study (MATES IV) Report, and to submit the attached technical comments focused on Appendix V and Appendix VI.

In summary, Appendix V states that the differences in average levels of various gaseous species and pollutants between the West Long Beach (WLB) MATES III and MATES IV sites are not statistically significant (except for acetaldehyde), even though the sites are 0.8 miles away from each other. However, to the contrary and most notably, there was wide variability in elemental carbon (EC) concentrations between the WLB MATES III and MATES IV sites.

Additionally, Appendix VI gives the impression that the major contributors of black carbon (BC) emissions measured at the WLB site are from Ports' operations. Instead, our findings strongly suggest that weather conditions and BC emissions from other areas played a significant role in the measurements seen in Appendix VI.

The Ports appreciates your consideration of our comments into the Final MATES-IV Report. If you have any comments or questions, please contact Janna Watanabe at the Port of Long Beach at (562) 283-7100; or Amber Coluso at the Port of Los Angeles at (310) 732-3950.

Sincerely,

CHRISTOPHER CANNON
Director of Environmental Management
Port of Los Angeles

HEATHER TOMELY
Director of Environmental Planning
Port of Long Beach

CC:LW:TJD:AC:yo
APP No: 120626-996

Enclosure: Technical Comments on MATES IV Draft Report

APPENDIX

TECHNICAL COMMENTS ON MATES IV DRAFT REPORT

Prepared by Leidos, Inc., in Consultation with the Ports of Long Beach and Los Angeles

These technical comments are focused on two areas: Appendix V, entitled *Comparison between the West Long Beach Site in MATES III and MATES IV*; and Appendix VI, entitled *Black Carbon (BC) Measurements at Fixed Sites*.

APPENDIX V - COMMENTS

1. While there was only a 5% increase in PM_{2.5} concentrations in comparing data from the West Long Beach (WLB) MATES III to IV sites, an almost 25% increase in elemental carbon (EC) concentrations was observed, as shown in Table V.1 (summarized below). In addition, review of Figure V-4 in Appendix V indicates several days when EC at the MATES IV site are more than 2x the EC at the MATES III site. Appendix V states the change in EC concentrations between the MATES III and IV sites is not statistically significant at the 95% level. However a comparison of the data in Table V-1 shows that the average EC concentration at the MATES IV site is outside the 95% confidence limits of the EC concentrations at the MATES III site, and the average EC concentration at the MATES III site is outside the 95% confidence limits of the EC concentrations at the MATES IV site. Therefore, this analysis shows that the differences in average concentrations between the two stations are statistically significant ($p > 0.05$), and the two stations do not have equivalent EC levels.

Re-creation of Table V-1 in Appendix V

	PM _{2.5} Mass (µg/m ³)	PM _{2.5} OC (µg/m ³)	PM _{2.5} EC (µg/m ³)	Nitrate (µg/m ³)	Sulfate (µg/m ³)	1,3- Butadiene (ppb)	Benzene (ppb)	Formaldehyde (ppb)
MATES III WLB Site	17.6 ±2.0	6.50 ±0.82	2.22 ±0.44	3.07 ±0.70	3.67 ±0.55	0.048 ±0.01	0.39 ±0.06	2.47 ±0.27
MATES IV WLB Site	18.5 ±2.1	6.30 ±0.74	2.77 ±0.51	3.34 ±0.78	3.87 ±0.57	0.058 ±0.01	0.39 ±0.07	2.50 ±0.23
% Difference	5.11%	-3.08%	24.77%	8.79%	5.45%	20.83%	0.00%	1.21%

- Table V-2 (reproduced below for PM_{2.5} mass, PM_{2.5} OC and PM_{2.5} EC, with an added estimate of R²), shows the correlations between the MATES-III and MATES-IV data set for PM_{2.5} mass, OC and EC. The R² value (coefficient of determination) provides an indication of how much of the variance of one variable is predictable from the other variable. Here, we agree that PM_{2.5} mass and EC have statistically high correlations with both at R² = 0.80. It appears OC at the sites are minimally related at R² = 0.20.

Two data sets that are highly correlated do not necessarily equate to equivalency. It may be that a high correlation simply indicates a consistency where data points increase or decrease together on the same date. The increase in EC at the MATES IV site compared to the MATES III site is concerning in terms of representativeness since the MATES IV site is located much closer to a localized source.

Table V-2 with added R²

	PM _{2.5} Mass	PM _{2.5} OC	PM _{2.5} EC
R	0.92	0.46	0.89
m	0.90	0.40	1.02
n	72	68	67
R²	0.8464	0.2116	0.7921

- Based on the data collected in the POLA and POLB monitoring programs, it appears that the measured pollutant which has the highest spatial variability is ultrafine particle (UFP) counts. This also seems to be the case for the UFP analysis in Chapter 5 of the Draft MATES IV report, although the full analysis is apparently not completed (Appendix VII, Particle Counts at Fixed Sites is listed as *In Preparation*). UFP measurements were not taken in MATES III, but it would be useful to compare UFP measurements from the MATES IV and MATES III in WLB. The MATES-IV WLB site is located 0.8 miles to the northwest of the MATES-III site, closer to major emission sources such as a rail yard. Given that UFP counts may be the most sensitive indicator of nearby emission sources, as shown in the studies near LAX, San Bernardino Railroad, and near a freeway, as discussed in Chapter 5.roadways. Detailed analysis of the UFP data from MATES-IV (especially with wind speed and direction data) would be useful.
- Presented below are the PM_{2.5} Mass, EC and OC concentrations at POLB's Inner Harbor station (located approximately 1 mile south of the MATES III site) for the estimated dates used in this study. All PM concentrations presented below were measured using a DRI Sequential Filter Sampler (SFS). Assumptions were made on the exact start and end dates for the averaging period, but comparatively the results show that the Port monitoring stations are consistently lower. The POLB Inner Harbor station's measurements were the highest of the six stations in the POLA/POLB monitoring program. For this study, the SCAQMD

deployed filter-based SASS units for their PM monitoring, so some discrepancy in concentrations might be expected due to the difference in instruments.

Comparison of PM_{2.5} Mass, EC, and OC Levels at 3 Sites during the MATES IV Study

	PM _{2.5} Mass (µg/m ³)	PM _{2.5} Mass (% Reduction)	PM _{2.5} EC (µg/m ³)	PM _{2.5} EC (% Reduction)	PM _{2.5} OC (µg/m ³)	PM _{2.5} OC (% Reduction)
MATES IV WLB Site	18.5	-	2.77	-	6.30	-
MATES III WLB Site	17.6	5%	2.22	20%	6.50	-3%
POLB Inner Harbor	15.3	17%	1.71	38%	3.33	47%

It should be noted that measured PM_{2.5} Mass, EC and OC concentrations presented above all decrease moving south as the POLB Inner Harbor station is located approximately 1 mile due south of the MATES III West Long Beach station. Thus, the monitoring stations located closest to the Ports have lower concentrations than the MATES IV WLB stations, indicating that sources outside the vicinity of the Ports are producing higher ambient levels of PM_{2.5} Mass, EC and OC.

5. The data collected in this MATES IV monitoring program were affected by seasonal meteorological and dispersion conditions during the timeframe of the study. Appendix V states the data was collected from February to November 2007 and April to December 2008. Typically, the highest levels of PM_{2.5} and EC (in particular) are measured during the winter months from November to February. While emissions remain generally constant throughout the year, ground level concentrations tend to increase during these timeframes due to the lower dispersion of ground-based emissions.

It might be instructive to conduct a more detailed review of the data. For example:

- a. There are at least three days on which EC at the MATES IV site > 4 µg/m³, while EC at the MATES III site < 2 µg/m³ which is more than 100% higher. Are these anomalies, or were there special atmospheric conditions or other events that affected the data?
- b. During this study, not much data was collected during the winter months for these two time periods. Under southerly or southwesterly winds, common during spring and summer months when most of the measurements took place, the sites are likely exposed to the same general sources to the south and southwest. However under light northerly or northwesterly flow, localized sources may impact the MATES IV site due to its close proximity to Route 163 and rail yard sources. Since the MATES IV site is 0.8 mile closer to both Route 163 and the rail yard, it is feasible that measured EC levels (and potentially OC) could be higher under the light northerly winds commonly found during the nighttime hours (stable nocturnal boundary layer) in the fall and winter months.

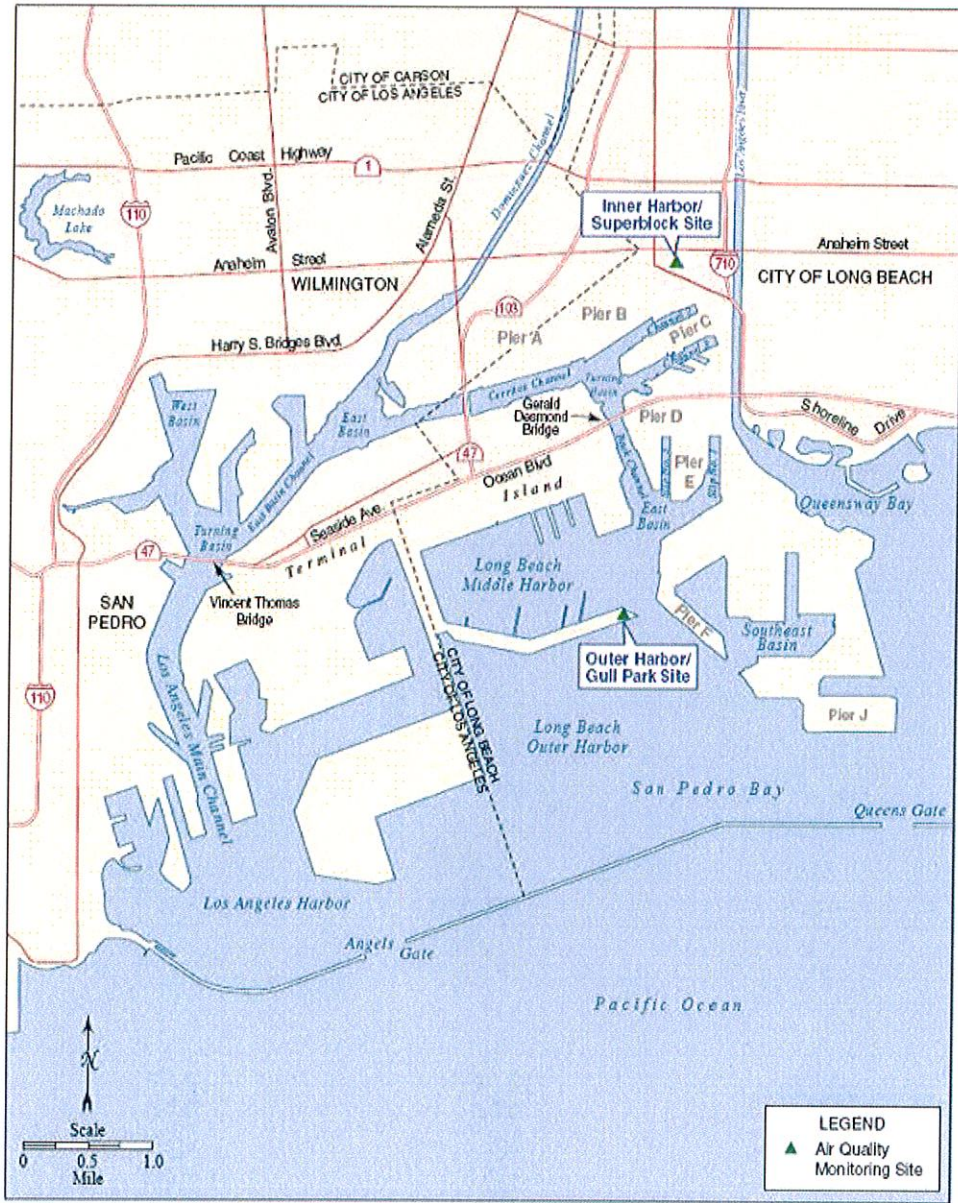
APPENDIX VI - COMMENTS

Most sites presented in Appendix VI, Figure 6 indicate that maximum BC concentrations occurred during the fall and winter seasons. The WLB site, the monitoring station closest to the Ports area in the MATES-IV program, has the second-highest winter average BC concentration of the 10-site MATES-IV monitoring program, estimated at approximately $2.3 \mu\text{g}/\text{m}^3$ from Figure 6. In this report and in a presentation to the MATES-IV Technical Advisory Group (Polidori, 2014), the impression is given that the major contributors of BC emissions measured at the WLB site are diesel-powered vehicles, non-road mobile machinery, and ships.

The Ports would like to offer some general findings from their BC monitoring program to provide additional insight into BC levels in the Ports area, specifically BC data collected at the Inner and Outer Harbor stations in the POLB monitoring network. A brief description of these stations is presented below and Figure 1 shows the locations of the two monitoring sites:

- a. The Inner Harbor station is located in a heavy industrial area at the north end of the POLB complex. There are several truck distribution depots in the vicinity, and two busy roads are located nearby, West Anaheim Ave and I-710, both of which are used by large numbers of diesel trucks.
- b. The Outer Harbor station is located at the end of the "Navy Mole" (i.e. eastern end of Nimitz Road), a peninsula that terminates at the Long Beach Channel. It is located near the southern end of the POLB complex, and diesel-powered mobile sources will primarily be located at Port terminals, located some distance away (except for the occasional ship that passes nearby while moving through the Long Beach Channel). The two POLB stations are located approximately 2.7 miles apart, in a roughly north-south line.

Figure 1. Locations of Air Monitoring Stations for Port of Long Beach BC Study



Because the highest average BC concentrations measured in the MATES-IV program were found during the winter season, the focus of this analysis is the winter season (assumed to be December 2012 through February 2013). Average winter season BC concentrations at the two POLB monitoring stations are comparable to the average observed at the WLB station, as shown in the table below.

BC Concentrations at Three Monitoring Stations in the Ports Area

Period	Average BC Concentration at Selected Sites ($\mu\text{g}/\text{m}^3$)		
	MATES IV West Long Beach	POLB Outer Harbor	POLB Inner Harbor
2012 - 2013 Winter Season	2.3	2.3	3.0

Detailed Review of the Black Carbon Hourly Data

Figure 7 in Appendix VI illustrates that across the 10 stations in the MATES IV study, the highest monthly BC concentrations during the winter were recorded in January 2013. The Aethalometers deployed at the Ports' monitoring stations also measured the highest monthly BC concentrations during January 2013. Detailed analysis of the 1-minute BC data channel on the Aethalometers, in conjunction with meteorological data collected at the Port's monitoring sites, yields insight into the potential origin and transport of the BC material measured during January 2013.

The 24-hour average BC concentrations measured at the Inner and Outer Harbor stations on January 3, 2013 were $6.92 \mu\text{g}/\text{m}^3$ and $5.83 \mu\text{g}/\text{m}^3$, respectively. However, the Aethalometers also provide 1-minute average BC concentrations, which allow in-depth analysis of BC concentrations and correlations with key meteorological parameters to assess changes in BC levels with changes in boundary layer and transport parameters.

Mr. George Allen of NESCAUM (Northeast States for Coordinated Air Use Management) has performed research suggesting that stable 1-minute BC data can be evaluated to differentiate BC sources on multiple scales (Allen, 2014). His research states that local sources (within a few hundred meters) will produce rapid spikes in the BC signal. Sources that are on a larger scale (urban and regional) will drive smoother increases and decreases in BC levels that can occur over a morning or evening. Through the analysis of the 1-minute BC data, it is possible to develop some conclusions on the spatial scales that are influencing the measured BC data.

Through review of the simultaneous 1-minute data at the Inner and Outer Harbor stations, we can draw insights into the spatial scales of the measured BC. The Inner Harbor station would likely be influenced by a combination of regional, urban, and local sources; the Outer Harbor station would be expected to be influenced primarily by regional and urban sources.

The following three figures illustrate 1-minute BC concentrations measured at the POLB Inner Harbor and Outer Harbor stations on January 3, 2013, which was selected as a typical weekday in January that had high BC concentrations.

Figure 1 provides the raw 1-minute BC concentrations at the Inner (green) and Outer (red) Harbor stations over the 24-hour period. There are two major features of the BC concentrations at these two stations that can be seen in Figure 1:

1. The general pattern of BC concentrations measured throughout the day on January 3rd at the two stations is very similar. Elevated BC concentrations at both stations occur during the morning (averaging around 10-15 $\mu\text{g}/\text{m}^3$) until about 9 AM, when BC concentrations begin decreasing to the low of the day which was reached in early afternoon. The BC concentrations remain relatively constant (averaging 2-3 $\mu\text{g}/\text{m}^3$) until early evening, when they begin to increase again.
2. Elevated 1-min spikes of BC concentrations (up to 40 $\mu\text{g}/\text{m}^3$) are much more prevalent at the Inner Harbor station, indicating that there are a number of BC sources close to that station. These measurements reflect the environment around the two stations, because nearby BC sources appear to be common at the Inner Harbor station and less common at the Outer Harbor station. The other feature evident in the 1-min BC measurements is that elevated BC spikes are common only during certain parts of the day, primarily in the early morning and late afternoon/evening hours.

Assessment of the co-located meteorological parameters measured on January 3rd indicates an overnight low temperature of 41° F, which is quite cold for the South Coast Air Basin. This can be used to infer a strong nocturnal boundary layer with a low capping inversion and little mechanical turbulence. None of the nighttime hours record a wind speed measurement over 3 mph. Wind direction measurements indicating light northerly winds persist throughout the nocturnal hours until 11AM, so we have light flow from the greater LA air basin south towards the Port's monitoring stations. Around 11AM, the winds switch to a more south-southwest direction indicating a more onshore flow regime. On the graphic, the vertical black line at 11AM (as well as the wind rose graphic) provides a visual indication of when the winds switch from northerly to more southwesterly flow. The onshore flow remains until about 8PM, when once again the winds become light and turn north-northeast for the remainder of the evening. The meteorological parameters in combination with the 1-minute BC data provide strong evidence that the Aethalometers are being influenced by a variety of sources from several directions.

Figures 2 and 3 estimates the contribution from local scale BC sources and from urban and regional scale BC contributions. This was done by using the approach pioneered by John Watson and Judy Chow (JAWMA, 2001) at the Desert Research Institute (DRI), in which a moving average subtraction method was applied to BC measurements taken at stations around Mexico City. In this method, an hourly average BC concentration is calculated for each 1-min BC measurement, using the 60 1-min BC averages centered on the 1-min BC measurement. The hourly average BC calculation is then subtracted from the 1-min BC measurement, which provides an estimate of the contributions from local BC sources (the 1-min BC measurement minus the hourly BC moving average), and the contributions from urban and regional BC sources (the hourly BC moving average). These calculations were conducted for each minute of the day and then averaged over the day, to provide an estimate of the contribution to the BC concentrations from the two spatial scales.

Figure 2 shows the estimated contribution at the Inner Harbor station from urban and regional BC sources (“baseline BC level”) and from local BC sources. Local sources contributed approximately 19% of the 24-hour average BC concentration ($6.92 \mu\text{g}/\text{m}^3$) on January 3rd, while the baseline BC level was 81% of the 24-hour average BC contribution. Figure 3 shows the estimated contribution at the Outer Harbor station from the local and baseline BC sources. Local sources contributed approximately 15% of the 24-hour average BC concentration ($5.83 \mu\text{g}/\text{m}^3$) on January 3rd, while the baseline BC level was 85%.

This analysis shows that local BC sources (within a few hundred meters) contributed between 15% and 19% of the total measured BC concentrations on January 3rd, which is comparable to the 12% contribution from local sources in Mexico City estimated in the John Watson and Judy Chow paper. Their paper also estimated that the neighborhood contribution (1-5 km) was an additional 23%, indicating that BC sources from larger scales contributed the majority to their BC measurements.

This analysis was conducted on only one day in January 2013. However, the POLB monitoring stations collected BC and meteorological data throughout the winter (December 2012 through February 2013), and a preliminary review of the data indicates this was not an isolated event. There are many other days, particularly in January 2013, where similar BC levels and meteorological conditions persist, indicating that there are significant urban and regional contributors to the levels of BC measured at the Port monitoring stations. We encourage the South Coast AQMD to conduct a similar analysis for the winter months to see if the WLB data agrees with the Ports’ data presented above.

References

Allen, G., 2014. Email correspondence between G. Allen (Northeast States for Coordinated Air Use Management, NESCAUM) and G. Bertolin (Leidos, Inc.), December 2014.

Watson, J.G. and J.C. Chow, 2001. *Estimating Middle-, Neighborhood-, and Urban-Scale Contributions to Elemental Carbon in Mexico City with a Rapid Response Aethalometer*, J. Air & Waste Management Association, **51**:1522-1528.

Figure 1: Inner and Outer Harbor BC Concentrations (1-min) on January 3, 2013

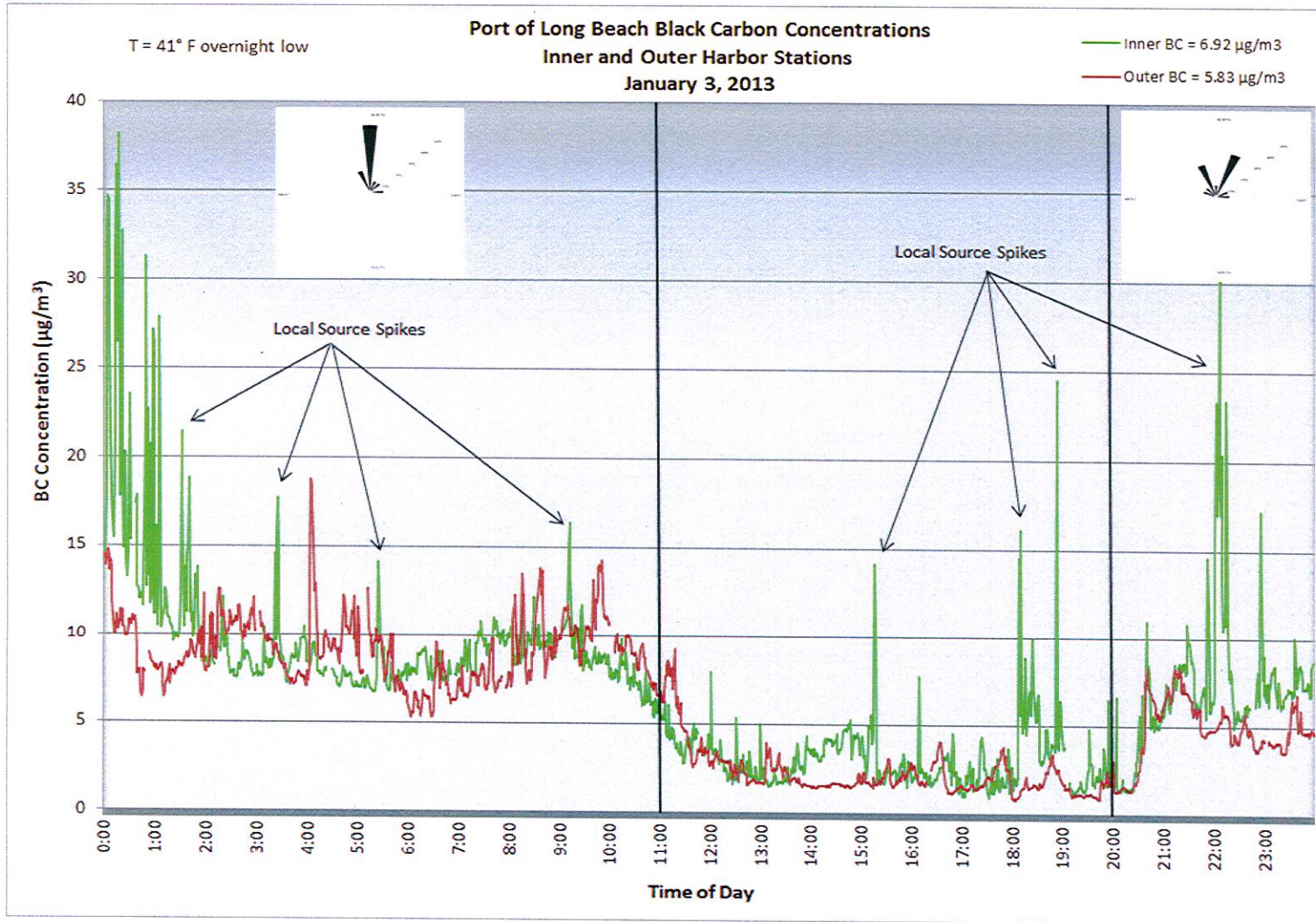


Figure 2: Detailed Inner Harbor BC Concentrations (1-min) on January 3, 2013

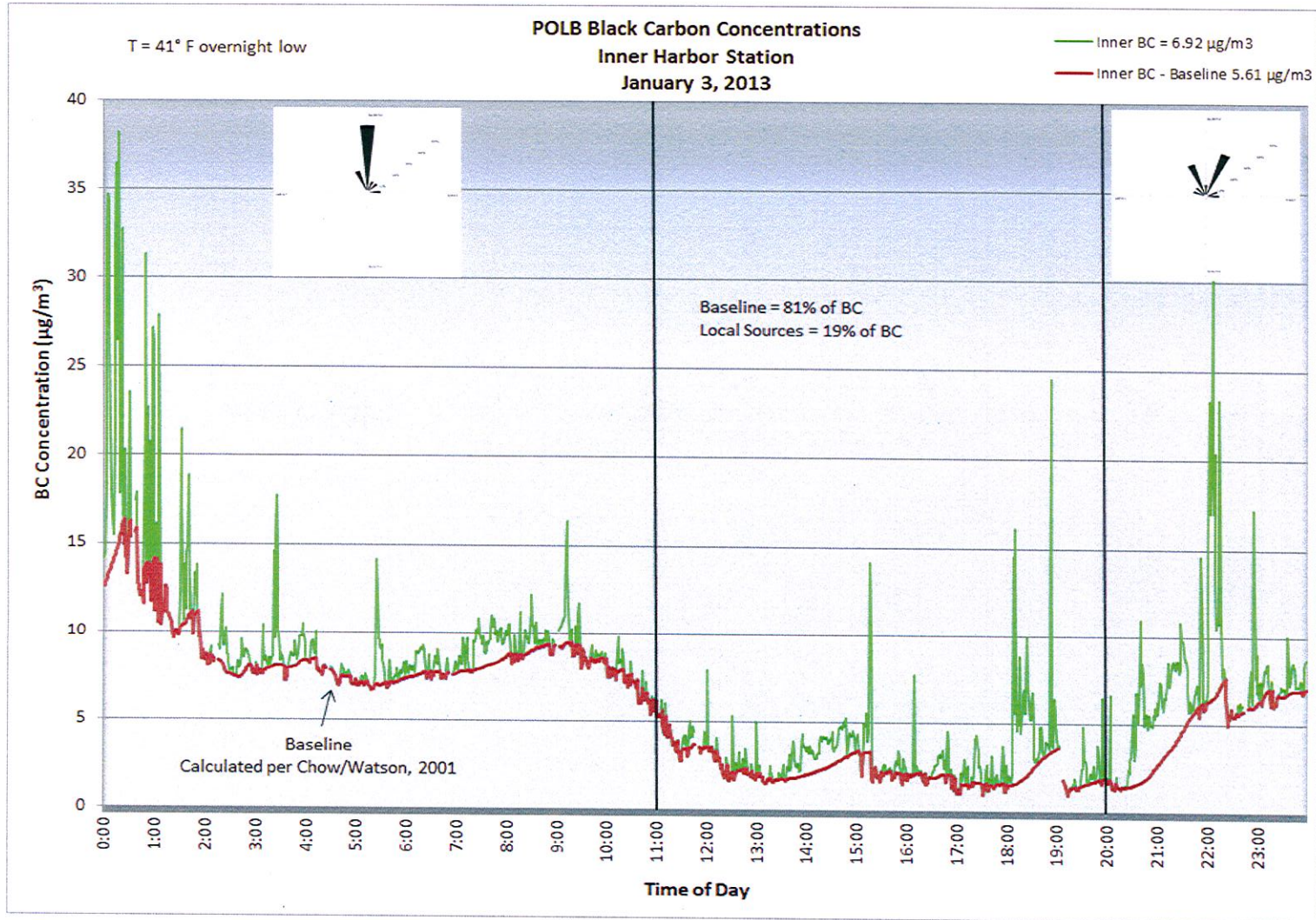
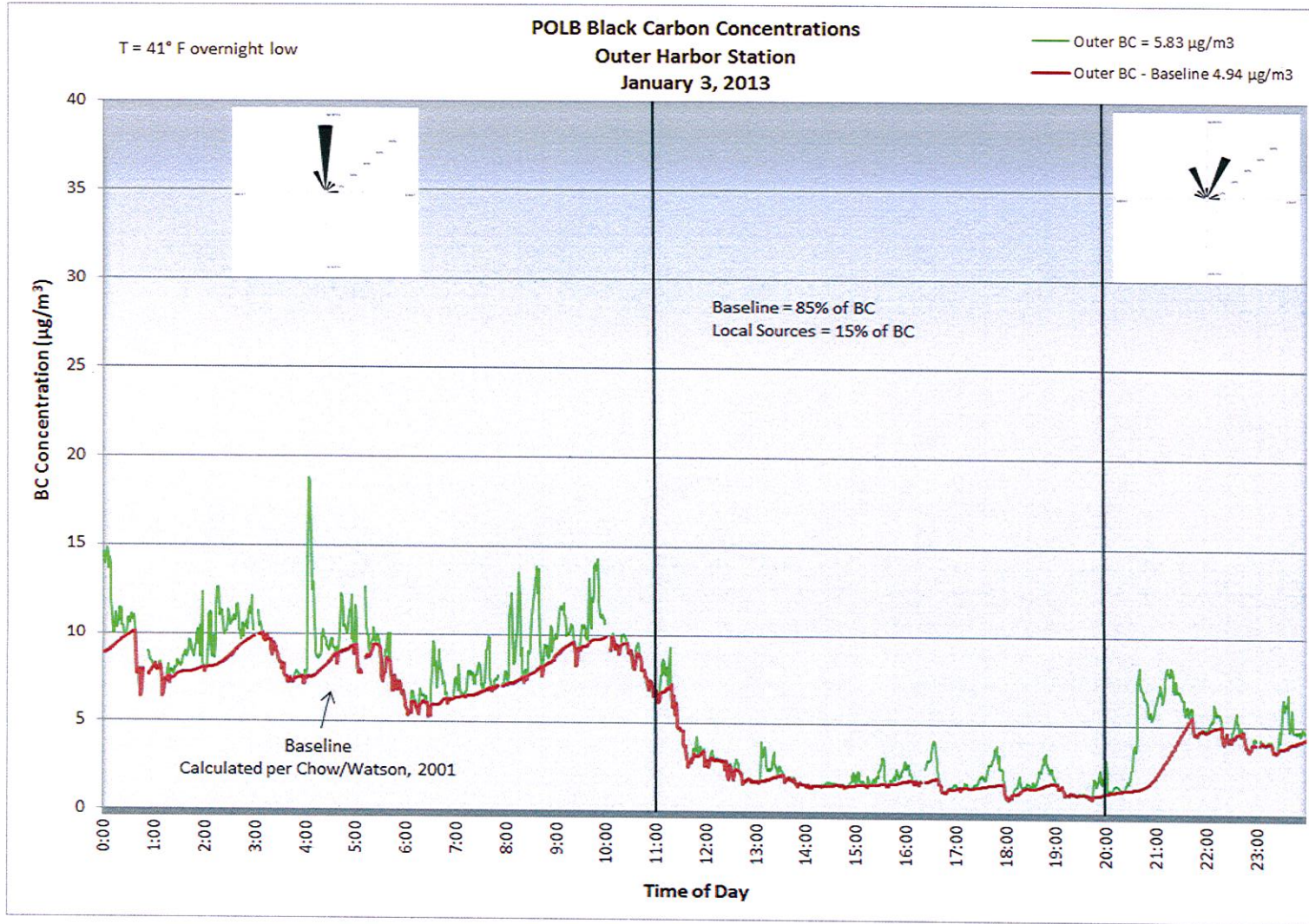


Figure 3: Detailed Outer Harbor BC Concentrations (1-min) on January 3, 2013





December 30, 2014

Dr. Jean Ospital, Health Effects Officer
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765-4178

Re: Comments on the MATES IV Draft Report

Dear Dr. Ospital:

The Southern California Alliance of Publicly Owned Treatment Works (SCAP) represents 82 public agencies that provide essential water and wastewater treatment to nearly nineteen million people in Los Angeles, Orange, San Diego, Santa Barbara, Riverside, San Bernardino and Ventura counties. We provide environmentally sound, cost-effective management of more than two billion gallons of wastewater each day and, in the process, convert wastes into resources such as recycled water and renewable energy.

SCAP appreciates this opportunity to comment on the MATES IV Draft Report (Draft Report). SCAP has followed all the MATES efforts, and we continue to remain impressed at the level of scientific rigor and dedication we find in each report. The most recent Draft Report continues this laudable trend.

It seems logical and appropriate that MATES should discuss, where valid, comparisons of its results to those from other reputable and scientifically valid sources. Thus, we are concerned about the inclusion of CalEnviroScreen results in Section 4.8 of the Draft Report. While we understand the interest to include a discussion regarding CalEnviroScreen, SCAP respectfully requests that the Final Report explain the substantial differences between this screening tool and a comprehensive risk analysis. For example, CalEnviroScreen has been used to estimate a community's combined "pollution burden and population characteristics" score, while MATES provides a lifetime risk estimate from exposure to air toxics.

SCAP's comments on Section 4.8 of the Draft Report are incorporated into the attached document for your consideration. Our membership believes that it is important to communicate that CalEnviroScreen scores are not an expression of health risk, and this screening tool is not intended to be used as a health or ecological risk assessment for a specific area or site.

P.O. Box 231565

Encinitas, CA 92024-1565

Fax: 760-479-4881 Tel: 760-479-4880 Website: www.scap1.org Email: info@scap1.org

We appreciate your consideration of our comments, and look forward to working with SCAQMD on our mutual goal of cleaning the air. If you have any questions regarding these comments, please do not hesitate to contact me at (760) 479-4121.

Sincerely,

A handwritten signature in black ink that reads "John Pastore". The signature is written in a cursive style with a large, looped initial "J" and "P".

John Pastore, Executive Director

cc: Elaine Chang, SCAQMD
Philip Fine, SCAQMD

ATTACHMENT

SCAP’s Recommended Revised Section 4.8 of the MATES IV Draft Report

4.8 California Communities Environmental Health Screening Tool (CalEnviroScreen)

Since the completion of the MATES III Study, the California Environmental Protection Agency (CalEPA) and Office of Environmental Health Hazard Assessment (OEHHA) developed a screening tool for evaluating multiple pollutants and stressors in communities, called the California Communities Environmental Health Screening Tool (CES). This tool has been used to estimate a community’s “Pollution Burden and Population Characteristics” score, while MATES provides a lifetime risk estimate from exposure to air toxics. The purpose of this section is to outline the fundamental difference between MATES and CES.

In August 2014, CES version 2.0 was released. This version produces results at the census tract level for approximately 8,000 census tracts in California and approximately 3,600 tracts within the jurisdiction of SCAQMD. The model consists of two component groups – pollution burden and population characteristics. Unlike MATES, which provides a traditional health risk assessment approach using measured air toxic contaminants, CES considers pollution surrogates and community characteristics that have been shown to affect vulnerability to pollution, such as socioeconomic factors or underlying health status. A set of statewide indicators (Table 4-8), selected based on existing environmental, health, demographic and socioeconomic data, is used by CES to create a screening score for communities across the state.

Table 4-8
Indicators used to Represent Pollution Burden and Population Characteristics
in CES Version 2.0

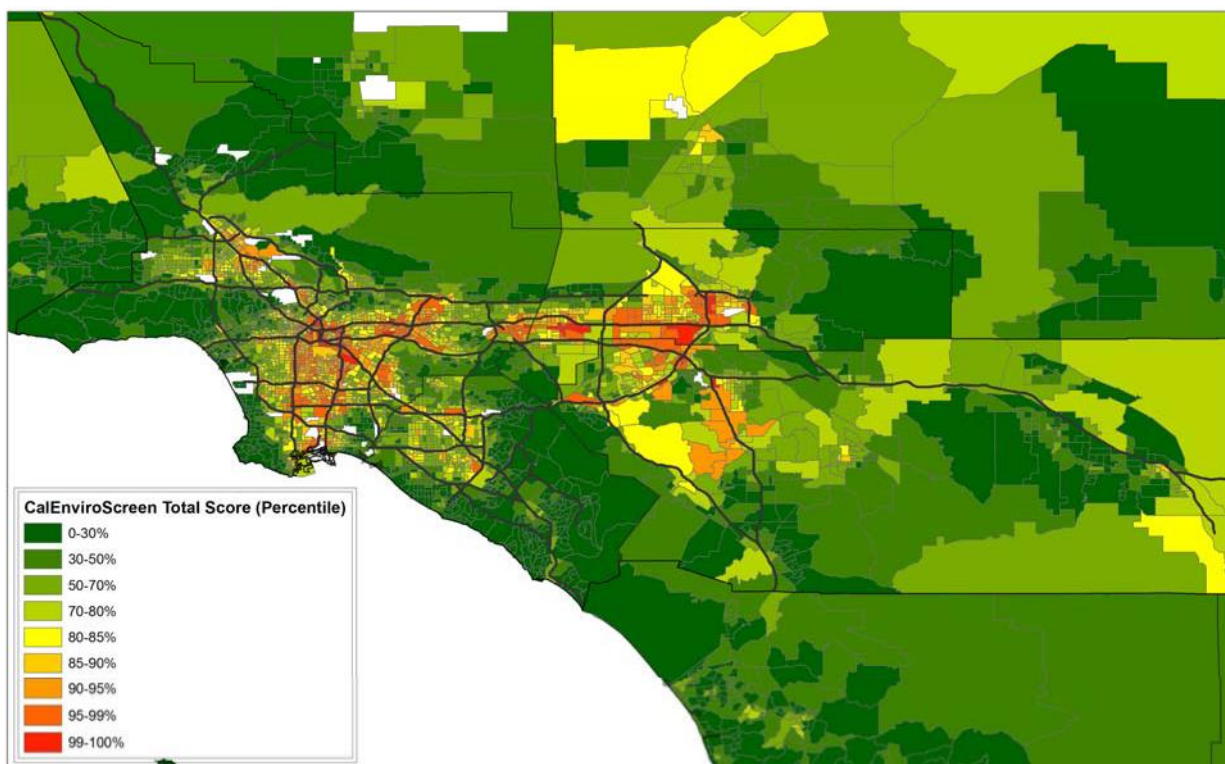
Component Group 1: Pollution Burden		Component Group 2: Population Characteristics	
Exposures	Environmental Effects	Sensitive Populations	Socioeconomic Factors
PM 2.5 concentrations Ozone concentrations Diesel PM emissions Pesticide use Toxic releases from facilities Traffic density Drinking water quality	Cleanup sites Groundwater threats Impaired water bodies Solid waste sites and facilities Hazardous waste	Children and elderly Asthma emergency department Low birth weight births	Educational attainment Linguistic isolation Poverty Unemployment

For each indicator, a value is assigned for each census tract. Among the areas with an indicator value, the values are ranked from highest to lowest and a statewide percentile score is created for each indicator in each census tract. The percentile score for all individual indicators is averaged in each component group and then divided by the maximum value observed in the State. In the pollution burden component group, environmental effects indicators are weighted half as much as the exposure indicators. The component group scores are both scaled to a maximum of 10 with a possible range of zero to 10. Finally, the overall CES score is calculated by multiplying the scaled component group score for pollution burden by the scaled component group score for population characteristics. The highest possible CES percentile score is 100

with an equal contribution from the two component groups. An area with a high score would be expected to have higher pollution burdens and vulnerabilities than other areas with low scores. Results produced by CES can help decision-makers determine how to focus available time, resources and programs to improve the environmental health of Californians.

Figure 4-17 depicts the CES score in SCAQMD highlighting the census tracts scoring in the highest percentiles across the state. Most urbanized areas are in the top 30% score, indicating these tracts have higher pollution burden and population characteristics compared to other communities in the State. In particular, a significant fraction of census tracts in the Los Angeles, Riverside and San Bernardino counties are in the top 10% of the relative statewide scoring.

Figure 4-17



CES Version 2.0 Overall Scores. Data retrieved from OEHHA in September 2014.

While CES can assist CalEPA in prioritizing resources and helping promote greater compliance with environmental laws, it is important to note some of its limitations. The tool's output provides a relative ranking of communities based on a selected group of available datasets, through the use of a summary score. Unlike MATES, the CES score is not an expression of health risk, and does not provide quantitative information on increases in cumulative impacts for specific sites or projects. Further, as a comparative screening tool, the results do not provide a basis for determining when differences between scores are significant in relation to public health or the environment. Accordingly, the tool is not intended to be used as a health or ecological risk assessment for a specific area or site.



Dr. Jean Ospital
Health Effects Officer
South Coast Air Quality Management District
21865 Copley Dr,
Diamond Bar, CA 91765

Re: Comments on MATES III Report

Dear Dr. Ospital:

I appreciate the opportunity to comment on the October 2014 draft of the MATES IV study. This study importantly demonstrates the continuing success of SCAQMD and CARB regulations and policies to improve air quality and reduce exposures in the South Coast Air Basin. I have grouped my recommendations into three major areas:

- 1) presentation and interpretation of results;
- 2) conversion of elemental carbon (EC) to diesel particulate matter (DPM) concentrations; and
- 3) characterization of uncertainties.

PRESENTATION AND INTERPRETATION OF RESULTS

The reduction in air toxic exposures of 65% since MATES III should be presented clearly as an unqualified success story. In fact, the MATES III basin *average* would be considered a hot spot by MATES IV standards. However, I do not feel this message comes across as strongly as it should when multiple results covering changes in the OEHHA exposure estimation are presented.

A key point is that the exposure and risk reductions measured by MATES IV are not affected by the changes in the OEHHA exposure methodology. The OEHHA changes can and should apply to all MATES studies and any risk calculations and risk maps comparing different MATES studies should be based on a single, consistent method. Using different exposure methodologies (such as was done in the maps of ES-4 and ES-6) sends a confusing message that the risk reductions measured in MATES IV are somehow offset due to previous flaws in assessing exposure.

I also suggest that differing exposure methodologies not be used in any presentations of risk, as it likely will result in confusion for policy makers and the public. If you disagree, I suggest that any presentations of MATES III risk in the MATES IV report that use the new OEHHA exposure methods be put in appendices, along with detailed explanations of the changes in the exposure calculation methodology.

Other recommendations for presenting results are listed in the Appendix under "Specific Suggestions for Data Presentation."

CALCULATION OF DIESEL PM CONCENTRATIONS

Because a large part of the reduction in cancer risk was due to changes in the DPM/EC ratio, more detail should be provided about the changes in this ratio along with estimates of uncertainty.

Appendix XI should be expanded and included in the main report due to its importance. Because the overall risk numbers are dominated by diesel PM exposure, the uncertainty in the conversion of measured EC to DPM may dominate the overall cancer risk uncertainty. This conversion factor should be given a detailed uncertainty analysis based on estimated uncertainties in the emission inventories and speciation profiles. (Another large uncertainty in the risk numbers that should be mentioned is the large uncertainty in the DPM cancer potency factor.)

Below are some questions that I feel should be addressed in an expanded Appendix XI:

1. Were the large changes in DPM/EC ratios from MATES III to IV due to actual reductions in this ratio or were they primarily due to better speciation profiles (e.g., better methods, larger sample numbers, etc.)? For example, was the single 2005 exhaust profile (based on much older engines) appropriate to use for 2005? How uncertain was this profile? Were sample numbers adequate and were the tested engines sufficiently representative of 2005 engines?
2. Were there improvements or important changes in the DPM emission inventory from MATES III to IV?
3. Was the decrease in DPM/EC ratio expected or reasonable due to changes in engine technology and fleet turnover? This was discussed briefly for ocean-going vessels but not for other source categories.
4. In light of the above information, is it reasonable that the DPM/EC ratio changed from 1.04 to 1.95 then back down to 0.85 over the course of the last three MATES studies?
5. Were different contributions by source category in different parts of the basin taken into account? If not, should they have been? One example might be a decrease in DPM/EC ratio as one goes inland and the average ratio is less influenced by the high ratio for ocean-going vessels.
6. The sensitivity test of using the MATES III profiles for MATES IV data was a good idea but the results were not presented clearly.

UNCERTAINTY

A detailed uncertainty analysis including all uncertainties should be part of this report. It is clear that there are large differences in relative uncertainties between the analysis methods, emission inventories, DPM/EC ratios and cancer potency factors. As described above, the uncertainty in the DPM/EC ratio may dominate the overall risk numbers and be worthy of increased attention, as described below.

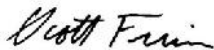
Besides giving readers an appreciation for the sometimes large uncertainties present in cancer risk estimations, knowing what uncertainties contribute most to the overall risk uncertainty can be useful in determining where future resources and efforts should be focused. At the same

time, any measurements contributing significantly less total risk than the overall risk uncertainty could be considered for elimination. This would allow diverting resources to other study needs such as increased DPM measurements and/or reducing the measurement and analysis uncertainty for Cr(VI) and 1,3-butadiene, two challenging compounds to measure with good accuracy.

Any uncertainty analysis should also include the spatial uncertainty. For example, DPM shows near road and near-freeway concentrations several times higher than ambient. While these may have been included in the 2 x 2 km grid average, there are large, socioeconomic-related differences in proximity to roadways across the basin. These should be an explicit concern in a study of this type.

Please feel free to contact me regarding any of these recommendations.

Best regards,



Dr. Scott Fruin, P.E.
Assistant Professor
Environmental Health Sciences
USC Keck School of Medicine

APPENDIX

Additional Recommendations

One important caveat to include is that people who live, work, attend school, or drive in locations of elevated DPM may be subject to significantly higher risks than these calculations indicate.

One new aspect of the large downward temporal trend in concentrations is that the risk reductions in a year or two are now larger than the site-to-site differences within a given year. This might justify the continuous temporal coverage of one location, such as Central Los Angeles, which matches the overall basin average for most compounds, and fewer numbers of sites or reduced sampling frequencies at sites that do not differ very much.

In absolute terms, the big reductions are from on-road diesel. The actual decreases in the inventory as modeled should be highlighted up front, along with the regulations and programs that are believed to be behind them. The other risk reductions should be prioritized by quantity.

Specific Suggestions for Data Presentation

One alternative inter-study mapping strategy that might be useful would be to make maps of the percent of basin average risk. This would allow direct inter-study comparisons of spatial differences that would not have been produced in previous reports. These will show a reduction in spatial disparities from MATES III to IV.

For credibility, the results should not be presented with three or four digit precision. If the uncertainty is +/- 50%, for example, only two digit precision is justified.

Table 2-2 (Sampling locations): It would be useful to list distance from and orientation to the nearest busy road.

Section 3.8 and Table 3-6: More discussion of these results seems warranted. Table 3-6 seems to show fairly large discrepancies in MATES III versus IV inventory changes and changes in the air measurements. Cr(VI), 1,3-butadiene and benzene are important since they contribute significantly to total risk. For Cr(VI) and 1,3-butadiene, relatively large discrepancies may be due to measurement challenges and may be deserving of more resources while other compounds contributing little risk might be considered for elimination if that results in a cost savings.

Calculating spatial correlations would highlight which compounds are global (e.g., high correlations for CCl₄), which are regional and which are more localized (with lower correlations). It is important to show where BC/EC fits in this picture—it may be localized most of the time but build up to be a regional pollutant during times of summer inversions.

In Appendix IV, correlation matrices for elements and VOCs would be useful to present. Also, readings below the Limit of Detection (LOD) should be set to 2/3 of the LOD rather than zero. This is less conservative and also more appropriate if the fraction of readings below the LOD is moderate, i.e., fewer than 20 or 30%.

Appendix G seems repetitive in some places. Some graphs are not readable (Figures 4, 13).

Suggest listing emissions by contribution to risk rather than just alphabetically for enhanced public understanding.

Linear regressions for scatter plots like Fig 14 in Appendix G (EC vs BC) should probably be log transformed.



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5090
Ser N40JRR.mh/001
January 5, 2015

Jean Ospital
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, CA 91765

Subject: DRAFT MULTIPLE AIR TOXICS EXPOSURE STUDY MATES IV

Thank you for the opportunity to comment on the Draft Multiple Air Toxics Exposure Study IV (MATES IV) on behalf of the military services in California. The Study validates the efforts of the South Coast Air Quality Management District (SCAQMD) to reduce air toxics since MATES III was conducted in the 2004-2006 timeframe.

However, we understand the MATES IV Study is not consistent in the use of scientific advancements in the assessment of risk. While recent advancements in modeling and exposure assessment were incorporated into MATES IV, the latest scientific updates were not applied for the dose-response assessment portion of the Study. This is in specific reference to page 1-3 in the Dose Response Assessment, "For this study, the dose-response estimates developed by OEHHA are used to estimate the potential for adverse health effects." The Study and SCAQMD would be best served by using the best and most current dose-response data and unit risk cancer potency factors from U.S. EPA.

Unfortunately, some of the key OEHHA cancer dose response/potency factors are over 20 years old and thus do not reflect current knowledge, which the Study as a whole is to be based on. While MATES IV acknowledges on page 1-3 that OEHHA cancer potency "estimates sometimes differ from those developed by the U.S. EPA", the MATES IV report does not affirm that it applied any dose-response advancements since the MATES series began. Specifically, key inhalation cancer potency values used (as per Appendix I of MATES IV and as shown on Table 4-6 of the Draft Report) were proposed in October 1990 (for trichloroethylene, TCE) and October 1991 (for perchloroethylene, PCE), suggesting 23-24 years have passed since the OEHHA toxicity studies for

these chemicals were developed. The MATES IV Report should incorporate in their risk assessment process the best and most current dose-response science as it has incorporated recent exposure assessment science.

Specifically, OEHHA's outdated unit risk cancer potency factor for PCE is based on a toxicological study from 1986. The current state of knowledge for PCE toxicity was reviewed on a national scale from 2004-2012, with an updated unit risk cancer potency factor established using a 1993 study with a 2010 National Research Council panel report, that was documented by written and oral comments from scientists within the U.S. EPA, other federal agencies, and the Office of Management and Budget, as well as the public (Regulations.gov 2008). The output of the national PCE unit risk update effort was finalized by the EPA Integrated Risk Information System (IRIS) in February 2012 (<http://www.epa.gov/iris/subst/0106.htm>). A similar update for TCE was completed on a national scale in September 2011 (<http://www.epa.gov/iris/subst/0199.htm>).

The MATES IV practice of retaining the outdated TCE unit risk cancer potency factor that has been in use since October 1990 means the MATES IV risk calculations use 24-year old dose-response science, whereas other OEHHA and California DTSC guidance directs the use of the updated (U.S. EPA IRIS) TCE toxicity value by way of HERO Note 3 (posted 14 Jul 14 at <http://www.dtsc.ca.gov/assessingrisk/humanrisk2.cfm>), making the California MATES IV approach using the 1990 OEHHA value for TCE inconsistent with HERO Note 3. In particular, HERO Note 3 (<http://www.dtsc.ca.gov/AssessingRisk/upload/HHRA-Note-3-2.pdf>) now directs risk assessors at California "hazardous waste sites and permitted facilities" to use the U.S. EPA Regional Screening Level for TCE (i.e., to use the U.S. EPA TCE IRIS unit risk cancer potency factor). Thus, SCAQMD and the MATES IV study should be consistent with DTSC guidance and incorporate the latest scientific knowledge of dose-response and unit risk factor selection.

Additionally, the MATES IV use of OEHHA cancer potency values contradicts the U.S. EPA OSWER Guidance Directive 9285.7-6, *Use of IRIS Values in Superfund Risk Assessment* which directs a hierarchy of cancer potency values be used in certain federal (i.e., Superfund) risk assessments. The OSWER guidance is clear to state that a Tier 1 value from U.S. EPA IRIS is to be used in risk assessment if one exists for a given chemical, which is the case for PCE and TCE. Please note that the OEHHA inhalation cancer potency values are considered Tier 3 values in the OSWER

Guidance hierarchy. Since a Tier 1 value exists for PCE and TCE, it is the best value to use particularly at federal sites subject to compliance with U.S. EPA guidance.

The Study notes in the Executive Summary that uncertainty in the risk estimates may be reduced with further scientific studies. Uncertainty in the risk estimates would be reduced by the use of the most current cancer potency value published in the U.S. EPA IRIS database, produced by rigorous nationwide scientific and peer-reviewed efforts.

On behalf of the military services in California, please consider this input to improve the Final MATES IV Study by consistently applying the most credible and current state of dose-response knowledge.

My point of contact for this is David Bell who can be reached at (415)977-8845 or Michael Huber at (619)532-2303.

Sincerely,

A handwritten signature in black ink, appearing to read "C. L. Stathos". The signature is written in a cursive style with a large, sweeping initial "C".

C. L. STATHOS
By direction

APPENDIX XIII

MATES IV

DRAFT FINAL REPORT

Responses to Comments Received on the MATES IV Draft Report

Below is a compilation of comments received on the MATES IV Draft Report, followed by staff responses.

Comment: The draft MATES IV report, pp. 5-14 to 5-15, speculates that I-405 Freeway traffic emissions may have contributed to the elevated UFP concentrations at site 8. The LAX Air Quality Source Apportionment Study includes evidence that the freeway did not influence UFP concentrations measured east of the freeway. Specifically to address this question, the researchers collected simultaneous measurements downwind of the runway and the same distance from the freeway about a mile and a half south of the runway. See Phase III of the LAX AQSA Study, pp. 5-99 to 5-113. The results showed that the elevated UFP concentrations could be attributed to aircraft, not the freeway. The language on pp. 5-14 to 5-15 of MATES IV should be revised to acknowledge the LAX AQSA study finding and suggest instead that, while the freeway could be a source of UFP, existing evidence shows that the elevated concentrations result from aircraft.

Response: In the Phase III of the LAX AQSA Study, pp. 5-99, it is indicated that: *“The particle size distribution (PSD) data from the Winter Season indicates the 7-30 nm particles are likely associated with jet exhaust while the 30-160 nm particles were likely associated with aged aerosol and directly emitted vehicle exhaust emissions.”* which is not inconsistent with conclusions in MATES IV report. In the comprehensive LAX AQSA Study, the diurnal variations of PSD and other pollutants were measured and studied. The correlations of specific particle size ranges with other pollutants provide information regarding the relative contributions of different possible sources. The LAX AQSA Study (pp. 113) concludes: *“[d]ifferences in correlations of UFP with other pollutants and day-of-week variations in diurnal profiles in 7-30 nm and 30-160 nm particles suggest that particles in the two size ranges may have different origins. Good correlations of the 30-160 nm particles with CO, NO, and BC and strong weekday dependence of diurnal variations indicates an association of these particles with vehicle emissions. In contrast, the poorer correlations with SO₂ and NO₂ suggest contributions of jet exhaust and possibly secondary particles.”* identifying vehicular traffic as a possible contributor to the measured ultrafine particles.

Our findings from the LAX local-scale study show the influence of aircrafts on the measured UFP concentrations, however elevated concentrations adjacent to freeways were also observed. In the MATES IV LAX local study,

considering that site 8 is located immediately downwind of the I-405 freeway, this site is most susceptible to be affected by emissions originated from the freeway; therefore it is hypothesized in the report that the slightly higher measured UFP concentrations at site 8 (e.g. compared to site 4, also downwind but further away from the freeway) may be due to the contribution of vehicular emissions. The report has been revised to refer to the Phase III LAX AQSA Study for more information.

Comment: Has the District run a regression analysis against POLA and POLB throughput to see what effect, if any, higher or lower throughput has had on cancer risk.

Response: Since the MATES studies are just single year snapshots, it is hard to do a regression analysis with just two or three data points. The total combined ports container throughput in 2005 (MATES III) was about 14.2 million TEU vs. 14.1 million TEU in 2012 (MATES IV). So with similar throughput, the risks have dropped significantly. We have also looked at container throughput vs. ambient Elemental Carbon (a marker for diesel PM which drives most of the risk) levels over time. It shows that since the 2009 recession period, container throughput at the ports has increased while Elemental Carbon has significantly decreased.

Comment: Given the significance of traffic sources in the Basin, and the fact that AQMD uses EC as a marker of carcinogenic diesel emissions, I attached our latest paper in which we used PMF on the speciation network data from 2002-2012 to do source apportionment, and showed that in L.A. and Riverside counties, the traffic emissions were reduced from the 2002-2006 to the 2008-2012 period by ~30% following the 2007 emission standards ; this was despite an actual increase in overall traffic volume in the post standard period . This is very relevant to the work presented in your draft document and corroborates the effectiveness of the emission standard.

Reference: Long-term source apportionment of ambient fine particulate matter (PM_{2.5}) in the Los Angeles Basin: A focus on emissions reduction from vehicular sources, Sina Hasheminassab, Nancy Daher, Bart D. Ostro, Constantinos Sioutas, Environmental Pollution 193 (2014) 54-64.

Response: Staff appreciates the reference, and it is included in Appendix XI.

Comment: Adding error bars in the plots and/or some metric of standard deviations or uncertainty in tables would make the presented data more defensible and the conclusions drawn more robust.

Response: Standard deviations have been added to the diurnal variation plots of BC and UFP in Appendix VI.

Comment: The elevated BC levels at the Inland Valley SB, not accompanied by equally high levels of UFP, are intriguing and require some further thoughts and investigation – are there any BC sources other than traffic in the area?

Response: The highest annual average black carbon concentration measured during the MATES IV Study was observed in Inland Valley San Bernardino site. Similarly, elemental carbon concentration measured at this site during the MATES III Study, conducted between April 2004 and March 2006, was among the highest measured in the fixed sites throughout the basin. These observations suggest presence of local diesel sources. The addition of particulate matter number concentration measurements in MATES IV Study provides additional insight which may be helpful in identifying possible sources of BC emissions in this region, considering that the identification of such potential sources in this region was non-conclusive in the MATES III Study. Typically high BC concentrations not accompanied by high UFP concentrations could be attributed to heavy-duty diesel vehicle and locomotive emissions. In one of the local-scale studies of the MATES IV, BC and UFP were measured in vicinity of the San Bernardino Railyard as one of the potential sources of the observed elevated BC concentrations (Chapter 5 – Page 5-15). Railyards are a complex mix of many source types including trains, stationary equipment, terminal operations and on-road vehicles, particularly heavy-duty diesel trucks. Generally, elevated BC concentrations are expected in vicinity of a railyard facility due to high traffic activity of heavy-duty diesel vehicles. This is evident from higher measured BC concentrations around the railyard compared to the concentrations measured at the fixed Inland Valley San Bernardino site during the same period. The railyard and the chosen sampling sites in this study were all located upwind of I-215, and the light-duty vehicle traffic around the railyard is not significant; therefore, the measured concentrations mostly reflect emissions of heavy-duty diesel vehicles. This may explain highly elevated BC concentrations not accompanied by equally high UFP concentrations around the San Bernardino Railyard. Similar observation at the fixed Inland Valley San Bernardino site may also suggest higher contribution of diesel emissions compared to gasoline traffic in this region. It should be noted that the relative contribution of light-duty and heavy-duty vehicles to the measured BC and UFP levels and

identification of other possible sources of BC and UFP is difficult to assess with this limited dataset.

Comment: Fig 5-7, 5-8 and 5-9 are these averages across sites? If so, error bars need to be added.

Response: The error bars were not added to these plots in order to simplify the report for general public, since this report is intended mainly for an audience with a non-scientific background. Some of the plots in this chapter are presented with the error bars (including Figures 5-7 and 5-9; Figure 5-8 with the error bars is not readable) in Appendix VI – Black Carbon Measurements at Fixed Sites and Appendix VII – Ultrafine Particle Measurements at Fixed Sites, where more details and scientific discussions are included for more technical readers.

Comment: The LAX pilot study is very well presented and in concert with earlier work by Westerdahl, D., Fruin, S. A., Fine, P. L., & Sioutas, C. (2008). The Los Angeles International Airport as a source of ultrafine particles and other pollutants to nearby communities. *Atmospheric Environment*, 42(13), 3143-3155.

Response: Thank you for your comment and the reference. This study echoes the findings of the MATES IV Study and the reference has been added to the report.

Comment: Commenter notes a fundamental disagreement with the Elemental Carbon/Organic Carbon (EC/OC) apportionment method used in MATES.

Response: There was no apportionment of EC or OC in the MATES IV Study, other than the use of EC as a surrogate for diesel PM. Staff acknowledges that there is no specific method to measure diesel PM in ambient air. The method used employs EC as a surrogate measure and estimates diesel PM levels by applying the emissions ratio of diesel PM and EC from the emissions inventory to the measured EC concentrations. Additional details are provided in Appendix XI.

Comment: The unit risk factor (URF) applied for diesel PM is not based on sound science, stemming as it does from flawed dose-response assumptions derived from the 1987 and 1988 Garshick, et al. studies of railroad workers.

Response: The risk factors used for diesel PM and other air toxics, as noted in the report, are those adopted by the California EPA Office of Health Hazard Assessment.

Comment: There is concern that EMA was excluded from the MATES Technical Advisory Committee, and that, in fact, no industry representatives were included on that committee. That basic lack of industry representation calls into question the objectivity of the MATES IV Report, and needs to be addressed.

Response: A Technical Advisory Group was selected to give input to SCAQMD staff on a range of technical areas. We note that all meetings of the Advisory Group were open to the public, notice of meetings were sent to interested stakeholders, and anyone with interest or relevant information was invited to provide comments.

Comment: The MATES IV Report does not adequately convey the very significant reductions in ambient levels of air toxics or the successful efforts to reduce air toxics risk in the South Coast Basin.

Response: Staff believes that the substantial reductions in air toxics was emphasized and conveyed appropriately, including specific graphical comparisons of ambient levels measured with those from prior MATES studies. Staff has added additional language to point out the reductions.

Comment: The Policy Implications section should acknowledge that the existing programs in California are sufficient to reduce any health risks attributable to diesel PM to acceptable levels in the near future, and that the diesel PM issues have been essentially resolved, as evidenced in part, by the attainment demonstrations that have been made for the PM NAAQS in the South Coast Air Basin.

Response: While staff may share the commenter's optimism that reductions in air toxics will continue into the future, staff believes that only future study of ambient levels of air toxics can provide the information needed to determine if future risks will indeed be reduced and to what extent. Whether future residual risk levels from diesel PM are acceptable is a question of policy and risk management that is beyond the scope of this report. Also note that the Basin is still in non-attainment for both the annual and 24-hour PM_{2.5} standards

Comment: Suggest including additional figures and charts in the Executive Summary comparing estimated risks from MATES IV to MATES III:

- A pie chart of the MATES-III results in addition to the MATES-IV results showing the area of the pie charts proportional to the risk estimates at the fixed monitoring sites

- A bar chart should be added to the Executive Summary comparing the change in risk between the two studies and clearly show that risk have decreased from 1,200 in 2006 to 400 in 2013

Response: These reductions were noted in the summary text, and a chart showing the reductions in risks across the Basin is also included to show both the magnitude as well as the spatial extent of estimated risks in MATES IV compared to MATES III.

Comment: There has been no re-evaluation of the Diesel PM URF (Unit Risk Factor) to address the significantly different emissions profile of new-technology diesel engines. Application of the “old” OEHHA risk value to today’s diesel engines is not valid. This adds to the uncertainty of MATES IV and most certainly overestimates the risk ascribed to diesel PM emissions in MATES IV.

Response: While the PM mass emissions of “new technology” diesel engines are substantially lower on a per mile or per hour operating basis, there is a lack of data that would indicate whether such emissions differ in terms of toxic potency per mass emitted. Again, staff used the potency factors established by OEHHA. Should OEHHA develop a different potency factor, staff will employ it in our estimates. Staff also notes a recent report from the Health Effects Institute describing the lack of tumors found in a laboratory animal study of “new technology” diesel exhaust, where the study’s Review Panel states that “whether the toxicity per unit mass of the PM emitted from the 2007-compliant engines was changed compared with older engines, the Panel pointed out that ACES was not designed to investigate this question.” And further that the most straightforward inference would be that the steep drop in particle mass and levels of organic components in exhaust significantly decreased the observed overall toxicity of exhaust compared with the toxicity of exhaust from older engines. That is, the decrease in toxic effects observed was likely due to the substantial reduction in the exposure level of diesel particulate, and not necessarily a change in the per unit mass risk factor.

Comment: The statement regarding increased ultrafine and particle number emissions in the MATES IV Report is wrong, and should be removed from the text. Page 5-12 Summary of Fixed Sites - The discussion indicates that there are ongoing concerns that the application of advanced emissions control technologies to diesel engines has led to uncertainties regarding the potential formation of ultrafine particles (UFPs). Extensive emissions testing has shown that the use of DPFs and selective catalytic reductions systems actually reduces the number of fine particles emitted from new-

technology diesel engines.

Response: Staff concurs that proper controls on diesel engines can reduce both particle mass (PM) and particle number (ultrafines). A full discussion of the different emissions controls and their impacts is beyond the scope of this report, and thus this discussion has been removed.

Comment: Page 5-13 Gradient Studies - The report refers to UFPs and black carbon (BC) as air toxics. Neither UFPs nor BC are considered or regulated as air toxic contaminants in California. The text of the MATES-IV report should be changed to reflect their correct classification throughout the document.

Response: This erroneous statement has been removed.

Comment: There is concern expressed that the difference between the MATES III and MATES IV West Long Beach sites are considerable, especially with EC.

Response: The two-sample T-test was used to test the difference between the average pollutant concentration in the MATES III and MATES IV West Long Beach sites. Except for acetaldehyde, p values are above 0.05 for other species listed in Table V-1. Therefore, the differences between the MATES III and MATES IV West Long Beach sites are not statistically significant ($p > 0.05$) for most constituents.

Note that ambient monitoring data is used to provide temporal and spatial trends of VOC/carbonyl/PM species. Cancer risk calculations and source identification are based on the emission inventory, which does not rely on monitoring data. More details about development of the 2012 emission inventory can be found in Chapter 3. Nonetheless, the following text has been added in Appendix X (page X-4) to highlight the potential observed differences:

“... relative to MATES III are in line with the monitoring data from the ports. Note that the levels of some PM constituents measured concurrently at the MATES IV West Long Beach site were slightly higher than those at the MATES III West Long Beach site (more details about the location and comparison of the two sites can be found in Appendix V). Therefore, the percentage reduction of PM species from the ambient monitoring program at West Long Beach might be a low estimate.

Comment: The impression is given that the major contributors of BC emissions measured at the WLB site are from the Port's operations - diesel-powered vehicles, non-road mobile

machinery, and ships. However other area sources play a significant role in the measurements in Appendix VI. Commenter presented an analysis of BC measurements conducted by the port, and concluded that local BC sources (within a few hundred meters) contributed between 15% and 19% of the total measured BC concentrations on January 3rd” and that on the days that “similar BC levels and meteorological conditions persist”, “there are significant urban and regional contributors to the levels of BC measured at the port monitoring stations”.

Response: This is in line with what is presented in MATES IV Appendix 6, where the major sources of BC in the port area are associated with the port activities, including ship emissions, port related traffic, goods movement and other activities related to the ports; while acknowledging other potential BC sources, such as the seasonal residential wood burning and other local sources. It should also be noted that the BC measurements in the MATES studies were not conducted for source apportionment analysis. Identifying and quantifying the contribution of various sources are achieved from the emission inventories and were not the purpose of BC measurements or Appendix 6. However, high time resolution BC measurements provide important information including the temporal trends which are helpful in identifying major and dominating sources.

Comment: In the analysis presented by commenter, based on 1-min BC concentration measurements, “[e]levated 1-min spikes of BC concentrations (up to $40 \mu\text{g}/\text{m}^3$) are much more prevalent at the Inner Harbor station, indicating that there are a number of BC sources close to that station. These measurements reflect the environment around the two stations, because nearby BC sources appear to be common at the Inner Harbor station and less common at the Outer Harbor station. The other feature evident in the 1-min BC measurements is that elevated BC spikes are common only during certain parts of the day, primarily in the early morning and late afternoon/evening hours.”

Response: The sharp BC spikes in the 1-min data probably originate from nearby sources, which are most likely direct emissions from diesel trucks on the nearby roads since the continuous point-source emissions and neighborhood contributions are expected to appear as more slowly varying concentrations rather than sharp, short-lived spikes (Watson and Chow, 2001). Moreover, as the commenter indicated as well, these spikes are more common during the rush hours with higher vehicular traffic (coupled with shallower mixing heights). Given that the major vehicular emitters of BC are diesel trucks, these spikes are most likely related to the goods movements to and from the ports which

are considered as port activities in this report.

The commenter concludes that *“local BC sources (within a few hundred meters) contributed between 15% and 19% of the total measured BC concentrations on January 3rd”*. Based on the locations of the measurement stations the commenter expects that *“the Inner Harbor stations, would likely be influenced by a combination of regional, urban and local sources; the Outer Harbor station would be expected to be influenced primarily by regional and urban sources”*, meaning that the Inner Harbor station is affected by local sources more than the Outer Harbor station. However based on the analysis presented by the commenter, the difference between the estimated contribution from local sources are only 4%, suggesting that the local sources at the Inner Harbor station are not a significant contributor to the total measured BC concentrations.

In the report it is clearly acknowledged that other than major BC sources, depending on the region, other sources may also contribute to the measured concentrations. For example it is mentioned in the report (Appendix VI – Page VI-1) that: *“While the major source of EC and BC in an urban area is diesel-powered vehicles, non-road mobile machinery, ship emissions, residential heating (such as wood burning stoves) and open biomass burning (e.g. forest fires or burning of agricultural waste) also contribute to the observed levels. For example, in some areas residential burning of wood or coal, or open biomass burning from wildfires, may be even more important sources of BC. In industrial regions, harbors and industrial facilities may have a pronounced effect on BC concentrations.”* and also (Appendix VI – Page VI-13) *“As mentioned earlier, other than diesel exhaust other sources contribute to increasing the total BC content of atmospheric PM. These may include biomass burning, coal burning, meat charbroiling and fuel oil (ship emissions).”*

Comment: The high correlation between two data sets collected comparing the MATES III and MATES IV West Long Beach sites might indicate a consistency where data points increase or decrease together on the same date. The increase in EC at the MATES IV WLB site might be due to its proximity to a localized source.

Response: The BC levels at the MATES IV West Long Beach site are probably affected by emissions from the Terminal Island Freeway 103, located only 300 feet

upwind of the sampling station, where vehicular traffic from goods movement associated with the San Pedro Bay Ports is particularly pronounced.

Comment: Suggested a comparison between UFP of the MATES III and MATES IV WLB sites.

Response: Unfortunately, particle counts were not in part of the sampling campaign in 2007-8 at the MATES III site. A detailed analysis of UFP spatial and temporal variation of the current MATES is presented in Appendix VII.

Comment: The Port's monitoring data at POLB's Inner Harbor station (1 miles south of the MATES III site) shows lower concentration of PM_{2.5} mass, EC and OC compared to both the MATES III and MATES IV WLB sites.

Response: The MATES III and MATES IV West Long Beach sites are closer to the Terminal Island Freeway (300 feet and 0.7 mile downwind, respectively) than the Inner Harbor station (1 mile downwind). The Terminal Island Freeway is heavily impacted by heavy-duty diesel trucks traveling to and from the Ports. Vehicular traffic from goods movement associated with Ports' activities could be a significant source of PM emission at the WLB sites.

Comment: Suggested a more detailed analysis of the data due to seasonal meteorological and dispersion conditions in the study timeframe.

Response: Excluding low EC days (< 1 ug/m³), there are 3 days when the difference between MATES III and IV West Long Beach site exceeds 2x. For these 3 days, westerly wind prevailed most of the time, and wind speed was moderate to moderately low in the Long Beach area. For the diurnal profile of BC, please refer to Appendix VI.

Comment: The reduction in air toxic exposures of 65% since MATES III should be presented clearly as an unqualified success story. However, this message does not come across as strongly as it should when multiple results covering changes in the OEHHA exposure estimation are presented.

Response: Staff believes this description was included in the report. Regarding the changes in OEHHA risk estimation procedures, this is included to show what the changes are for the MATES IV modeling results that will be compared to future MATES studies using the new methodology. For consistency with previous MATES study results, the previous risk estimations were used to describe the changes in potential air toxics risks.

Comment: A key point is that the exposure and risk reductions measured by MATES IV are not affected by the changes in the OEHHA exposure methodology. The OEHHA changes can and should apply to all MATES studies and any risk calculations and risk maps comparing different MATES studies should be based on a single, consistent method. Using different exposure methodologies (such as was done in the maps of ES-4 and ES-6) sends a confusing message that the risk reductions measured in MATES IV are somehow offset due to previous flaws in assessing exposure.

Response: Staff's view is that the changes in risk estimation methodology are important, and should be described. Also that the changes in the methodology, as pointed out by the commenter, do not imply that exposures and risks have gone up compared to previous MATES studies. Staff does not agree that the implication is that reductions in exposures are "offset" due to changes in the calculations for estimating risk. Staff has added revised language in the report to more fully address this.

Comment: Differing exposure methodologies should not be used in any presentations of risk, as it likely will result in confusion for policy makers and the public. Any presentations of MATES III risk in the MATES IV Report that use the new OEHHA exposure methods should be put in appendices, along with detailed explanations of the changes in the exposure calculation methodology.

Response: Staff considered a number of approaches to present the risks resulting from the revised OEHHA calculation methodology, and chose to use the method used in previous MATES reports to provide a comparison of exposures and estimated risks in the previous studies, and then to point out the magnitude of difference in the MATES IV Study when using the revised methodology. It is staff's view that these changes are important to acknowledge and describe for the public and for policy makers.

Comment: Because a large part of the reduction in cancer risk was due to changes in the DPM/EC ratio, more detail should be provided about the changes in this ratio along with estimates of uncertainty. Appendix XI should be expanded and included in the main report due to its importance. Specific questions that should be addressed in an expanded Appendix XI, include the following, presented as

Response: Staff appreciates the detailed and valuable comments from the reviewer. The Appendix XI was revised to address the concerns raised by the reviewer.

Comment: Were the large changes in DPM/EC ratios from MATES III to IV due to actual

reductions in this ratio or were they primarily due to better speciation profiles

Response: In addition to the speciation profile, some regulatory actions and demographic changes, even though small, contributed to the change. More discussions about the changes are now incorporated in the Appendix XI.

Comment: Were there improvements or important changes in the DPM emission inventory from MATES III to IV?

Response: DPM and EC emissions are calculated using VMT estimated by SCAG and emission factors from EMFAC 2011. Other than the speciation profiles and updates made to EMFAC2011, there was no significant changes in methodology to estimate emissions.

Comment: Was the decrease in DPM/EC ratio expected or reasonable due to changes in engine technology and fleet turnover? This was discussed briefly for ocean-going vessels but not for other source categories.

Response: A figure (XI-1) is added to demonstrate the changes in speciation profile over time. The calendar year fleet represent an aggregated fleet with different engine type, control technology, engine operation mode, etc. More references are added as well.

Comment: In light of the above information, is it reasonable that the DPM/EC ratio changed from 1.04 to 1.95 then back down to 0.85 over the course of the last three MATES studies?

Response: The ratios were estimated strictly based on the emissions inventory which were the state-of-art at the time of the study. As more advanced and refined data become available, the emission inventory has been updated based on them. Note that MATES II was conducted in 1998-1999 which is over 16 years ago and MATES III is almost a decade old. The changes in the ratio are largely driven by changes in the relative contribution of various EC sources and DPM sources, in addition to updates to speciation profiles.

Comment: Were different contributions by source category in different parts of the Basin taken into account? If not, should they have been? One example might be a decrease in DPM/EC ratio as one goes inland and the average ratio is less influenced by the high ratio for ocean-going vessels.

Response: A new paragraph is added in the Appendix XI to discuss the geographical variation of the ratio.

Comment: The sensitivity test using the MATES III profiles for MATES IV data was a good idea but the results were not presented clearly.

Response: A paragraph and a table are now added to Appendix XI to clarify the calculation.

Comment: A detailed uncertainty analysis including all uncertainties should be part of this report. It is clear that there are large differences in relative uncertainties between the analysis methods, emission inventories, DPM/EC ratios and cancer potency factors. As described above, the uncertainty in the DPM/EC ratio may dominate the overall risk numbers and be worthy of increased attention. Besides giving readers an appreciation for the sometimes large uncertainties present in cancer risk estimations, knowing what uncertainties contribute most to the overall risk uncertainty can be useful in determining where future resources and efforts should be focused.

Response: The effect of the DPM/EC ratio change due to the speciation methodology change only affects MATES III vs. MATES IV comparisons based on EC measurements. The overall risk assessment using numerical modeling results is not affected by the EC speciation profiles as DPM is estimated directly, and results from the modeling were consistent with the measurement approach. In addition, the DPM concentration estimated using MATES III diesel profile showed less than 25% of variation.

Comment: Uncertainty analysis should also include the spatial uncertainty. For example, DPM shows near road and near-freeway concentrations several times higher than ambient. While these may have been included in the 2 x 2 km grid average, there are large, socioeconomic-related differences in proximity to roadways across the basin. These should be an explicit concern in a study of this type.

Response: Programs such as MATES are designed to monitor and characterize toxic emissions over the entire Basin. However, ambient monitoring is necessarily conducted at a limited number of locations, and modeling is limited to a spatial resolution of 2km. For this reason, communities located close to industrial sources or large mobile source facilities (such as marine ports, railyards and commercial airports) can be affected by higher air contaminant levels that cannot be captured in the typical MATES analysis. Near-road monitoring studies and dispersion modeling results for point sources indicate

that exposure can vary greatly over distances much shorter than 2 km. The local-scale monitoring program of MATES IV aimed to characterize the impacts of large sources on nearby communities by utilizing portable platforms designed to sample for a period of several weeks at selected locations with an emphasis on diesel particulate matter (DPM) and ultrafine particle (UFP) emissions. The studies are designed to assess gradients in ambient pollutant levels within communities as well as provide a comparison to the fixed MATES monitoring sites. The communities chosen for sampling were selected based on proximity to potential sources as well as environmental justice concerns. Please refer to Chapter 5.4 (Page 5-12).

Comment: One important caveat to include is that people who live, work, attend school, or drive in locations of elevated DPM may be subject to significantly higher risks than these calculations indicate.

Response: Staff appreciates the comment, but the study was designed on a regional scale and thus may not pick up exposures that would be influenced by a nearby source. The modeled risk based on the emissions inventory point out graphically that risks are higher near sources of emissions. For this reason the local-scale program was designed as part of the MATES IV Study to characterize the impacts of some of the large sources in selected locations and assess gradients in ambient pollutant levels within these communities. This local-scale program specifically focused on DPM emissions.

Comment: One new aspect of the large downward temporal trend in concentrations is that the risk reductions in a year or two are now larger than the site-to-site differences within a given year. This might justify the continuous temporal coverage of one location, such as Central Los Angeles, which matches the overall basin average for most compounds, and fewer numbers of sites or reduced sampling frequencies at sites that do not differ very much.

Response: The MATES studies are, of course, very resource intensive. Staff appreciates the comment and will take the suggestion into consideration for future studies. It should be noted as well that high-time resolution continuous measurement of black carbon concentrations will continue in four of the fixed MATES IV sites, including the suggested Central Los Angeles site (as well as Anaheim, Rubidoux and Inland Valley San Bernardino sites), in order to monitor the year-to-year variations. Moreover, some of the sampling stations in MATES IV Study, are also part of the National Air Toxics Trends Stations (NATTS),

or National Core (NCore) Multi-Pollutant Monitoring Station, or the Speciation Trends Network (STN) which provide the measured ambient levels of air toxics every year.

Comment: In absolute terms, the big reductions are from on-road diesel. The actual decreases in the inventory as modeled should be highlighted up front, along with the regulations and programs that are believed to be behind them. The other risk reductions should be prioritized by quantity.

Response: Staff believes that the relative contributions to risks from the various air toxics measures have been presented in the report. Additional detail on risk weighted emissions is in Chapter 3, which also shows the large reduction from on road vehicles.

Comment: One alternative inter-study mapping strategy that might be useful would be to make maps of the percent of basin average risk. This would allow direct inter-study comparisons of spatial differences that would not have been produced in previous reports. These will show a reduction in spatial disparities from MATES III to IV.

Response: Staff's view is that the actual estimates are most appropriate to convey the results. A map with percent of Basin average risk would look very similar to the absolute risks presented.

Comment: For credibility, the results should not be presented with three or four digit precision. If the uncertainty is +/- 50%, for example, only two digit precision is justified.

Response: Staff appreciates the comment. While most of the data are presented with two decimal points, there are small exceptions with an added digit to accommodate low concentrations observed in certain species.

Comment: Table 2-2 (Sampling locations): It would be useful to list distance from and orientation to the nearest busy road.

Response: The sampling location addresses are given. It was not the purpose to list nearby potential sources of emissions, as this was a regional scale study with sites generally chosen to be representative of regional or urban scale levels. When local sources are thought to be influencing measurements, they are mentioned in the discussion.

Comment: Section 3.8 and Table 3-6: More discussion of these results seems warranted. Table 3-6 seems to show fairly large discrepancies in MATES III versus IV inventory changes

and changes in the air measurements. Cr(VI), 1,3-butadiene and benzene are important since they contribute significantly to total risk. For Cr(VI) and 1,3-butadiene, relatively large discrepancies may be due to measurement challenges and may be deserving of more resources while other compounds contributing little risk might be considered for elimination if that results in a cost savings.

Response: Changes in benzene air quality should show a lower percentage change than emissions. This is so because benzene has a relative long atmospheric residence time, i.e, there is a large global background benzene concentration.

Changes in 1,3-butadiene emissions are consistent with formaldehyde and acetaldehyde. These pollutants come from similar sources. While changes in air quality for acetaldehyde and formaldehyde are consistent with emissions, changes in 1,3-butadiene are smaller than changes in emissions. Like the commenter alluded to, there is significant measurement challenge in measuring 1,3-butadiene. This is so due to both challenges in analytic technique and the ambient concentrations of 1,3-butadiene have come down significantly over last decade and to levels frequently below analytical detection limit.

The Cr6 inventory increases are primarily due to the increases of brake wear emissions between the two versions of EMFAC used in MATES III and IV. The brake wear increases are also resulting in higher nickel emissions. The other part of nickel increases is due to changes in off-road diesel profile. Therefore, these increases in emissions are due to inventory methodology changes and are not necessary real emissions changes. As shown in Chapter 2, ambient levels for both of these metals showed a decrease from MATES III to MATES IV.

Comment: Calculating spatial correlations would highlight which compounds are global (e.g., high correlations for CCl4), which are regional and which are more localized (with lower correlations). It is important to show where BC/EC fits in this picture—it may be localized most of the time but build up to be a regional pollutant during times of summer inversions.

Response: Intersite correlations are a good suggestion for further analysis, but the MATES Study focused more on determining risk levels from the combined impact of all sources, local or regional

Comment: In Appendix IV, correlation matrices for elements and VOCs would be useful to present. Also, readings below the Limit of Detection (LOD) should be set to 2/3 of the LOD rather than zero. This is less conservative and also more appropriate if the fraction of readings below the LOD is moderate, i.e., fewer than 20 or 30%.

Response: Staff appreciates the comments. Presenting such correlations may be of interest to some, and the data is publically available for further analyses. Regarding presenting data below the limits of detection, staff chose to present the actual readings from the analyses. Setting an arbitrary fraction of the LOD for non-detects may artificially bias the averages high.

Comment: Appendix G seems repetitive in some places. Some graphs are not readable (Figures 4, 13).

Response: Staff assumes the reference is to Appendix VI. Both figures (Figure 4 and Figure 13) are removed from the Appendix VI. Figure 4 that presented the daily BC concentrations at each site was not readable because daily concentrations for all ten sites were presented in one graph, with an intention to highlight generally higher concentrations during colder months. Figure 5 shows the trend of monthly (average) BC concentrations averaged over all ten sites which conveys same conclusion as Figure 4; therefore, figure 4 is deleted from the report.

Similarly, Figure 13 presents the correlations between EC and BC measurements for each of the ten sites combined in one plot, which as the commenter pointed out, is not readable in the printouts. Figure 14 presents the same correlation plots, for each site separately; therefore, with the same logic, figure 13 is also removed from the report.

Comment: Suggest listing emissions by contribution to risk rather than just alphabetically for enhanced public understanding.

Response: Table 3-5 in Chapter 3 (Development of the Toxics Emissions Inventory) lists emissions on a potency weighted basis.

Comment: Linear regressions for scatter plots like Fig 14 in Appendix G (EC vs BC) should probably be log transformed.

Response: Staff presumes this is Appendix VI. Generally the daily BC concentrations measured in this study range from a few hundred to below 5,000 ng/m³, therefore log-scale plots were not used.

Comment: The latest scientific updates were not applied for the dose-response assessment portion of the study. Specific examples are for trichloroethylene and perchloroethylene, where more recent potency factors are available from the U.S. EPA Integrated Risk Information System. Commenter also noted that the reports use of OEHHA potency factors in not in line with EPA guidance “Use of IRIS Values in Superfund Risk Assessment”

Response: Staff has acknowledged in the report that the risk factors from OEHHA are often different than those in the EPA IRIS System. Should OEHHA revise the California risk factors, staff will apply such revised factors.

Comment: Concerned about the inclusion of CalEnviroScreen results in Section 4.8 of the Draft Report. Request that the Final Report explain the substantial differences between this screening tool and a comprehensive risk analysis and communicate that CalEnviroScreen scores are not an expression of health risk.

Response: Staff agrees that the difference between MATES and CalEnviroScreen should be emphasized. Section 4.8 has been revised to include the commenter’s recommendation.

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 29

PROPOSAL: Draft 2016 AQMP White Papers on Particulate Matter Controls and Volatile Organic Compound Controls

SYNOPSIS: Draft white papers have been prepared on particulate matter (PM) controls and volatile organic compound (VOC) controls including the influence of VOCs on ozone and PM_{2.5} formation and recommended approaches to develop their attainment strategies.

COMMITTEE: Mobile Source Committee, April 17, 2015, Reviewed

RECOMMENDED ACTION:
Receive and file.

Barry R. Wallerstein, D.Env.
Executive Officer

BB EC:PF:MK

Background

The SCAQMD is preparing a 2016 Air Quality Management Plan (AQMP) to demonstrate how the region will reduce air pollution to meet federal health-based standards for ground-level ozone and fine particulates (PM_{2.5}). The Plan will focus on demonstrating attainment of the National Ambient Air Quality Standards (NAAQS) for 8-hour ozone (75 parts per billion, set in 2008) and annual PM_{2.5} (12 µg/m³ set in 2012). The Plan will also revise the previously submitted SIPs for the 1979 1-hour ozone, 1997 8-hour ozone, and the 24-hour PM_{2.5} standards.

As part of this process, SCAQMD staff is working closely with stakeholders to prepare a series of 10 white papers on key topics to provide scientific background and policy considerations that will inform the development of the 2016 AQMP. Two draft white papers have been prepared on the role of VOC controls and PM controls in the effort to achieve clean air standards. Based on the technical information such as pollutant formation of PM_{2.5} and ozone, both white papers include prioritized policy recommendations that will serve to shape the control strategy in the 2016 AQMP. The

complete draft VOC and PM white papers are included as attachments to this Board letter.

Staff Recommended Approaches for Control Strategy Development

VOC Controls

Significant decreases in NO_x emissions are needed for attainment of the ozone standard throughout the Basin, regardless the amount of VOC reductions. However, such NO_x reductions may lead to short-term, local increases in ozone in some areas of the western Basin. Based on numerous modeling scenarios, staff is recommending an attainment path for ozone, which calls for heavy NO_x reductions augmented with limited, strategic VOC controls to avoid the potential increase in ozone exposure above the 1997 ozone standard. The following staff recommendations provide a prioritized approach for achieving future VOC reductions:

1. Maximize co-benefits from NO_x, GHG or air toxic controls that produce concurrent VOC reductions.
2. Promote pollution prevention with associated cost savings.
3. Incentivize super-compliant zero- and near-zero VOC materials.
4. Maximize reductions from existing regulations (e.g., enhanced enforcement, remove loopholes, expand reporting programs).
5. Prioritize emission reductions of VOC species that are most reactive for ozone and/or PM_{2.5} formation and that produce concurrent air toxic or GHG benefits
6. Avoid toxicity trade-offs from exempt VOC replacements.
7. Further evaluate the practicality and effectiveness of time and place controls.
8. Continue research on the emissions and chemistry of semi-volatile organic compounds, including Low Vapor Pressure compounds.

Particulate Matter Controls

Several attainment paths can be developed with varying degree of controls among directly emitted PM_{2.5} and PM precursors. Selecting the most efficient path for PM_{2.5} attainment must take into consideration many factors, including the amount of total reductions needed, technology readiness, attainment deadlines, cost-effectiveness, and the relationship with attainment deadlines for other NAAQS pollutants. The following staff recommendations provide a prioritized approach for the development of the PM_{2.5} attainment strategy.

1. Co-benefits from the ozone NO_x strategy
2. Co-benefits from climate change or air toxic control programs
3. Outreach and incentive programs
4. Additional measures for PM_{2.5} attainment
5. Continue research and scientific studies

Public Process

Draft white papers for VOC Controls and PM Controls were released to the public on April 2, 2015, and the working group for each topic met, respectively, on April 14, 2015 and April 16, 2015 to discuss the content. Comments from the working groups, AQMP Advisory Group and other stakeholders will be incorporated into a revised version of the white papers. Staff is providing the Board a presentation on the draft white papers and will return to the Board once the reports are finalized to assist in the development of the 2016 AQMP.

Attachments

- A. VOC Controls White Paper
- B. Particulate Matter Controls White Paper

PRELIMINARY DRAFT



April 2015

**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

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1. Introduction

This document evaluates the need for additional VOC controls to achieve more stringent annual PM_{2.5} and 8-hour ozone standards in the SoCAB. It assesses the role of VOCs in forming ozone and PM_{2.5} to inform policymakers of the most efficient and effective strategies to attain the federal standards that are the subject of the upcoming 2016 AQMP.

The science behind the formation of ozone and particulate matter from VOCs is also summarized. A state-of-the-science numerical modeling system (WRF-CMAQ) is used to estimate the maximum allowable NO_x and VOC emissions that will lead to regional ozone and PM_{2.5} concentrations that meet the federal standards. Given the results of this modeling, the implications of various NO_x and VOC control strategies are analyzed.

2. What are VOCs?

VOCs are chemicals containing carbon that readily evaporate. VOCs are widely used in modern society in fuels, solvents, coatings, cleaning supplies, building products, and many other materials. In addition to evaporation, some VOCs are emitted as a product of combustion processes, such as wood burning or internal combustion engines. Thus, VOCs are emitted from mobile sources such as cars and trucks, and stationary sources such as refineries, chemical plants, and households. Since VOCs evaporate readily, in the absence of appropriate control measures, these compounds will ultimately end up in the atmosphere. Subsequent chemical reactions of VOCs in the atmosphere can form surface level ozone pollution and particulate matter.

Atmospheric scientists classify VOCs into several subcategories. The rate that each specific VOC forms ozone is a function of its unique chemical reactivity, its atmospheric concentration, and the atmospheric concentrations of other chemicals needed for these complex chemical reactions. VOCs that form ozone at extremely slow rates are considered non-reactive and are often classified as “exempt” from current VOC rules and regulations. However, toxicity or other potential adverse environmental impacts from these VOCs should also be considered. The ability for a specific VOC to form particulate matter is dependent on how fast it reacts with other atmospheric compounds and the physical properties of the resulting products.

We can also classify VOCs and their chemical reaction products into three sub-categories dependent on how readily they evaporate. VOCs with high volatility evaporate quickly, but are less likely to contribute to particulate matter, because these compounds generally remain as gases once they evaporate. On the other hand, compounds with lower volatilities evaporate at a slower rate, but are more likely to contribute to particulate matter as they or their reaction products may condense (transition from gas to liquid or solid form) once they are in the atmosphere. Compounds that have a significant fraction of their mass in both the gas and particle-phase in the atmosphere are referred to Semi-Volatile Organic Compounds (SVOCs). Compounds that have most of their mass in the gas-phase, but can transition to the particle phase under certain atmospheric conditions are termed Intermediate Volatility Organic Compounds (IVOCs). While a direct comparison is difficult, low vapor pressure volatile organic compounds (LVP-VOCs), defined under the California Air Resources Board consumer products regulations, fall into the IVOC and SVOC categories. In addition, atmospheric reactions can produce products with drastically different volatilities than the parent compounds.

3. The role of VOCs in ozone formation

Ozone concentrations in the South Coast Air Basin

Ground-level ozone pollution is a powerful oxidant with significant adverse effects on human health. While ozone concentrations within the SoCAB have declined significantly over the past few decades, the SoCAB does not meet federal or state ozone standards. In addition, the recently proposed federal limit of 65-70 ppb will make future attainment even more challenging [1]. In recent years, the significant downward trend in Basin-wide ozone concentrations has begun to level off. Figure 1 details the yearly trend in ozone concentrations and the trend in the number of days that exceed the current federal standard.

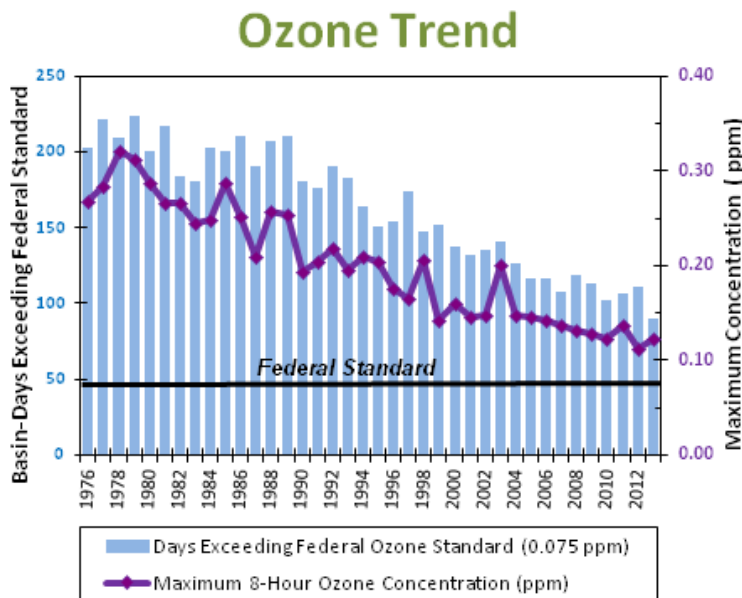


Figure 1: Basin-wide maximum 8-hour ozone concentration and Basin-days exceeding the federal standard.

Certain air quality monitoring stations located in the Inland Empire and the San Bernardino Mountains exceed the federal ozone standard over 60 days per year (Figure 2). Higher local ozone concentrations in these regions can be attributed to the significant upwind NOx and VOC precursor emissions transported by the daily sea-breeze in the summer, local emissions, and the timing of the daily emissions and peak sunlight intensity.

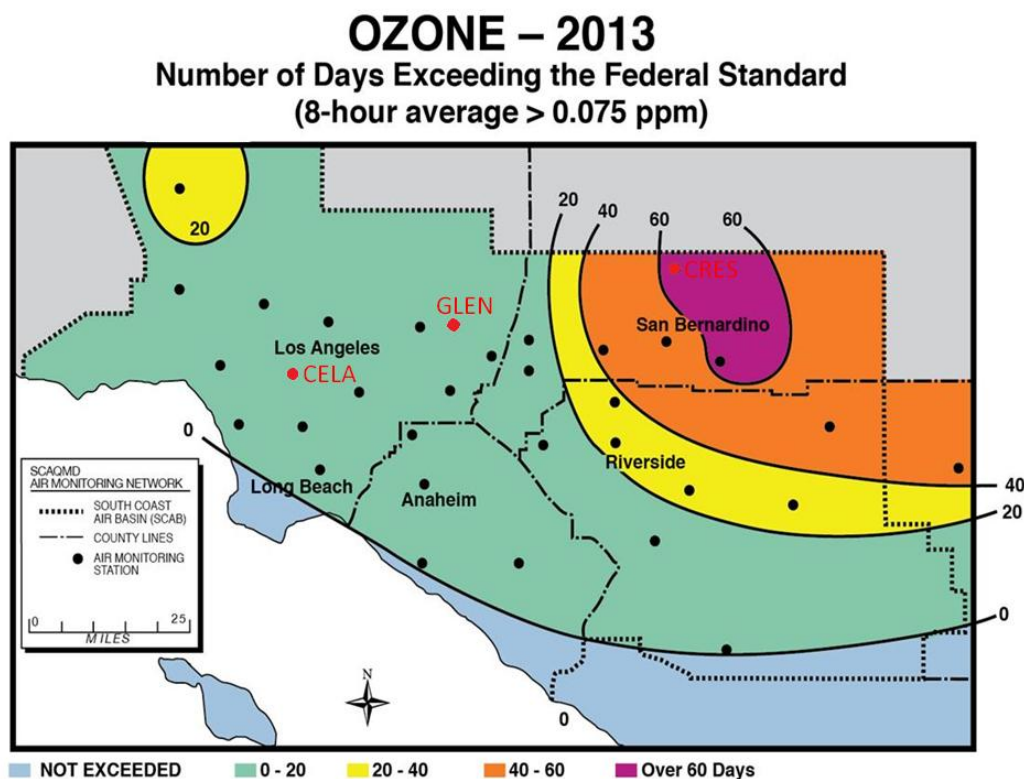


Figure 2: Spatial distribution of ozone exceedances in the SoCAB. Central Los Angeles (CELA), Glendora (GLEN), and Crestline (CRES) are highlighted.

How do VOCs form ozone?

Ozone (O₃) is not emitted directly into the atmosphere; it is formed in the atmosphere by reaction of VOCs with oxides of nitrogen (NO_x) in the presence of sunlight. NO_x is generated from combustion processes and is emitted in large quantities within the South Coast Air Basin (SoCAB). The chemical reactions that form ozone are highly complex and depend not only on NO_x and VOC levels, but also on the ratio of VOC to NO_x concentrations. NO_x emissions can even reduce ozone concentrations in the immediate vicinity of an emission source, but will contribute to ozone formation downwind.



Figure 3: Recipe for ozone production

A decrease in ambient VOC concentrations generally leads to a decrease in ozone. However, because of the complex chemistry involved, a decrease in NO_x concentrations may lead to a

decrease or an increase in ambient ozone depending on the local VOC concentration. This complex dependence on NO_x and VOC concentrations leads to interesting policy implications, which can be explored using comprehensive air quality models.

4. How do VOCs form particulate matter?

The South Coast Air Basin does not currently meet federal and state standards for PM_{2.5}, particles with diameters less than 2.5 μm (Figure 4). These particles consist of a myriad of different chemical compounds in both solid and liquid form. While some PM_{2.5} is emitted directly from sources, the majority of ambient PM_{2.5} is formed from chemical reactions and processes in the atmosphere. These small particles are particularly dangerous due to their ability to penetrate deep into the lungs. Many studies have linked inhalation of PM to serious adverse respiratory and cardiovascular affects. In order to develop an effective control strategy, one must consider the composition and by extension, the sources of PM_{2.5} in the Basin. In the Basin, approximately 30-50% of the PM_{2.5} mass is composed of organic compounds. The remaining fraction consists of elemental carbon, metals, dust, inorganic sulfate, inorganic nitrate, ammonium, and chloride. The organic fraction, known as organic aerosol (OA), is composed of a complex mixture of organic chemicals that may continue to evolve as it ages in the atmosphere.

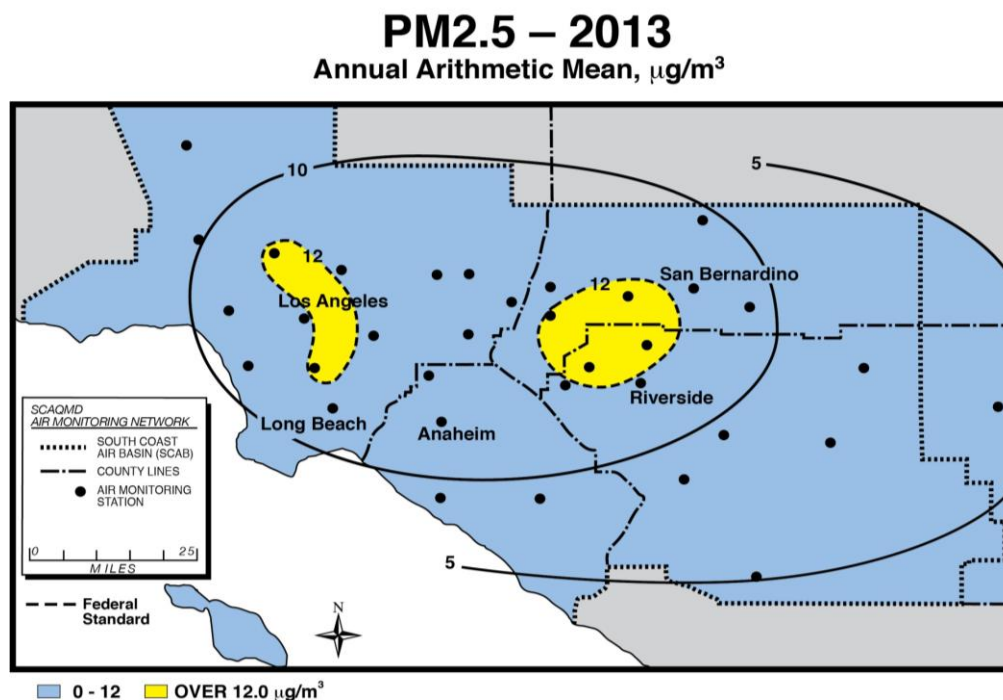


Figure 4: Spatial distribution of PM_{2.5} concentrations in the SoCAB

Different chemical reactions are responsible for the formation of ozone and OA from gaseous organic compounds. Since both ozone and PM_{2.5} formation are largely dominated by atmospheric reactions, we must consider the potential for a gaseous organic compound to contribute to both ozone and PM_{2.5} levels. Organic compounds with large ozone formation potentials may or may not contribute significantly to PM_{2.5} mass. Similarly, many gaseous

organic compounds classified as VOCs, IVOCs, or SVOCs that contribute to OA may or may not play a role in the formation of ozone [5].

5. Ozone Control Modeling Analysis

The Community Multiscale Air Quality (CMAQ) model has been used to investigate the resulting O₃ concentrations with various levels of VOC and NO_x emissions under different control strategies. The CMAQ model, which is the U.S. EPA recommended regulatory model, is considered the preeminent, state-of-the-science air quality model for analyzing air quality improvement strategies. Since ozone concentrations are a complex function of both NO_x and VOCs concentrations, we use a three-dimensional plot to visualize this dependency. The Empirical Kinetics Modeling Approach (EKMA) ozone “isopleths” diagrams illustrate the outcomes of this complicated chemistry.

The ozone isopleth diagram in Figure 5 illustrates how 8-hr ozone concentrations in Crestline (the monitoring station currently with the most ozone exceedances in the Basin) respond to decreases in total Basin-wide anthropogenic VOC and NO_x emissions beyond the existing adopted rules and regulations. The corresponding ozone isopleths diagram for Central Los Angeles is presented in Figure 6. Estimated VOC and NO_x emissions following the continued implementation of adopted rules and regulations in the 2023 timeframe are defined by the upper-right corner of the plot. The federal ozone standard is met within the yellow and green regions of the diagram (corresponding to Air Quality Index levels and colors). Three paths are illustrated on both isopleths diagrams to highlight the potential effects of different control strategies and to aid in policy discussions. Path C illustrates the impact of a control scenario that attains the ozone standards with only additional NO_x reductions beyond what is required in current rules. In this scenario, additional VOC reductions beyond current requirements are not applied. A control scenario focusing solely on additional VOC control is shown with Path A. A hypothetical control scenario where additional (beyond scheduled reductions) NO_x and VOC reductions occur at the same rate is illustrated with Path B. This is provided as an example of the results of a control strategy emphasizing VOC and NO_x reductions equally.

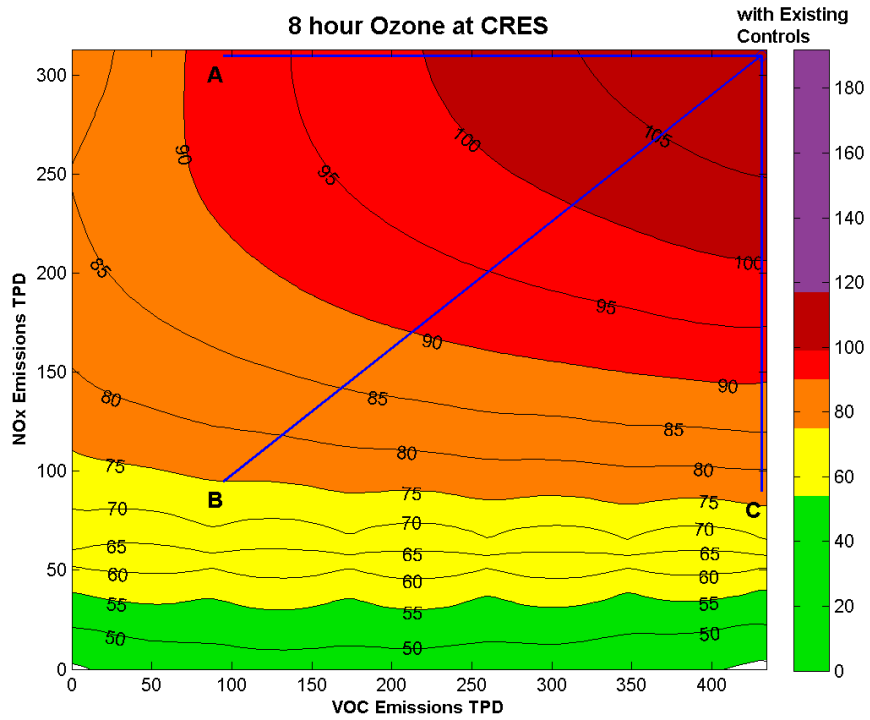


Figure 5: EKMA ozone isopleths diagram showing 8-hr ozone isopleth at Crestline. The color shading corresponds to the air quality index (AQI) color code. This analysis is based on the emissions inventory used for the 2012 AQMP using CMAQ version 4.7.

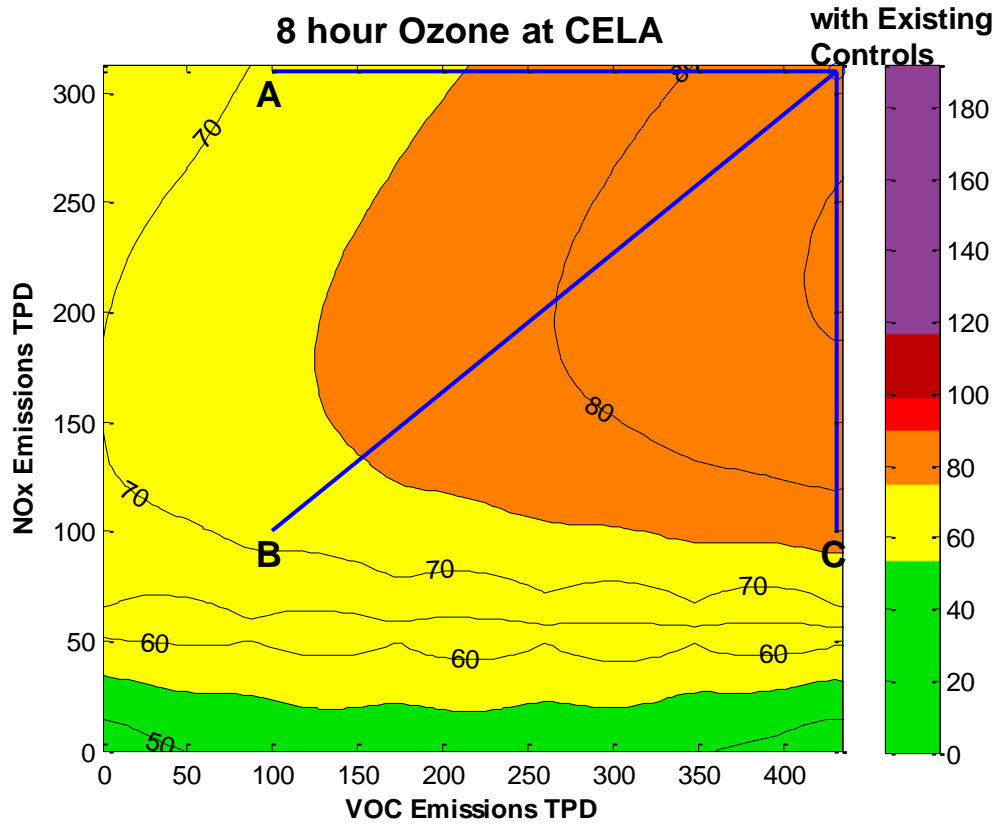


Figure 6: EKMA ozone isopleths diagram showing 8-hr ozone isopleth at Central Los Angeles. The color shading corresponds to the air quality index (AQI) color code. This analysis is based on the emissions inventory used for the 2012 AQMP using CMAQ version 4.7.

It is necessary to understand how ozone concentrations evolve during each of these three control paths at the Crestline and Central L.A. monitoring locations (Figure 7).

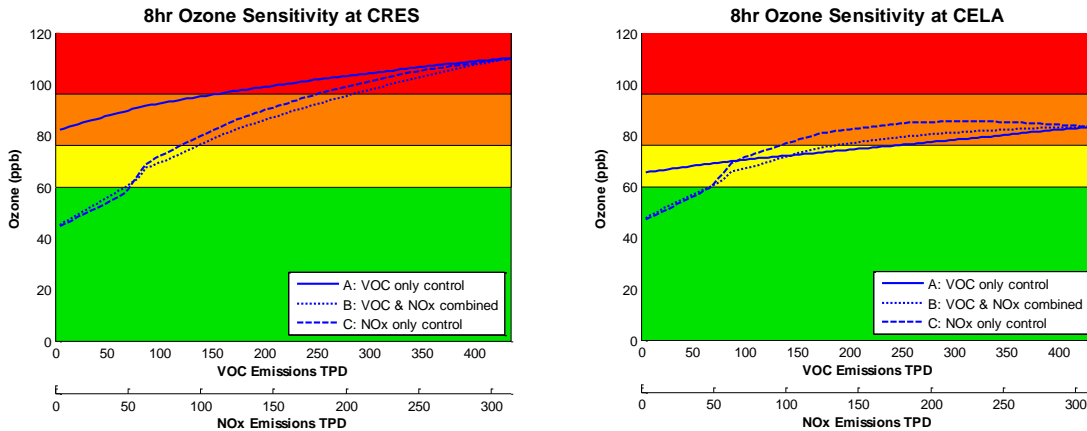


Figure 7: Ozone concentrations at Crestline and Central Los Angeles predicted to occur as a result of the specific control strategies (path A, B, and C) marked in Figure 5 and 7.

While the VOC heavy control strategy (Path A from right to left) reaches attainment in CELA with the minimum amount of emissions reductions, this strategy will not lead to attainment in CRES, and thus the Basin, even with zero anthropogenic VOC emissions. Therefore, additional NO_x reductions are required to achieve the ozone standards for both sites.

Not only is the achievable endpoint different in each of the scenarios, the ozone concentrations predicted to occur along the path to attainment are also quite different. Moving from right to left in these figures along Path C, the NO_x heavy control strategy suggests that approximately an additional 200 TPD of NO_x reductions beyond current regulations is required to attain the federal ozone standard. If NO_x is reduced without additional VOC reductions beyond what is projected from current rules, as illustrated in Figure 8 there could be up to a 2 ppb increase in ozone in certain parts of the western Basin surrounding central LA along the path to attainment. Figure 9 shows the area that would be above the 1997 ozone standard of 80 ppb and how much the potential ozone exposure increase would be. The population potentially subject to this effect is estimated to be a few million. It should be noted that this increased ozone phenomenon attributable to a pure NO_x reduction strategy is temporary and exists only along the path to attain the 80 ppb standard, but does not occur with additional NO_x reductions designed to attain the more stringent 75 ppb or the future proposed standard (65 to 70 ppb).

Additional Reductions Beyond Existing Controls

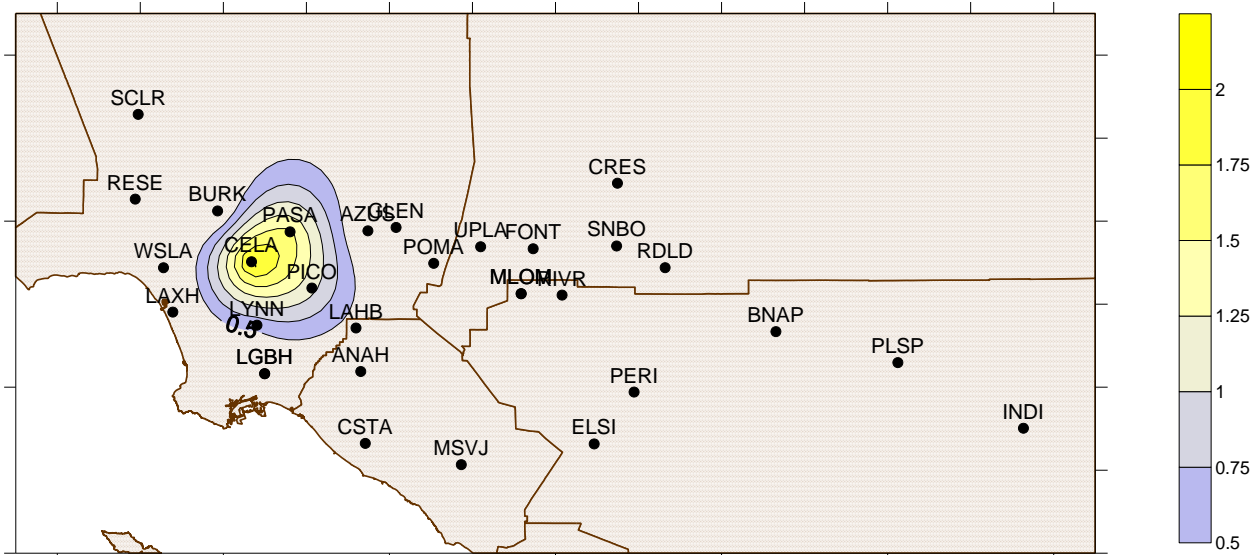


Figure 8: Maximum increase in ozone along the path to attainment with a pure NO_x control strategy

6. Consideration of “Path to Clean Air” Scenarios

There are different paths to achieve ozone and PM_{2.5} standards based on various levels of control among the precursor pollutants. The total magnitude of reductions required, technology readiness, cost-effectiveness, economic impacts, attainment deadlines, and the interaction with other attainment deadlines for other pollutants are all critical considerations in developing an overall multi-pollutant control strategy. Complex atmospheric chemistry and the non-uniform spatial distribution of both sources and the resulting ambient concentrations requires a comprehensive analysis that ensures not only that ozone and PM_{2.5} concentrations meet standards in all areas, but that unintended exposure increases in specific areas are avoided if at all possible. Furthermore, concurrent reductions of other pollutants such as air toxics and greenhouse gases should also be considered in optimizing a path to meeting multiple standards, objectives, and deadlines.

NOx-Only Control Strategy (Path C)

As demonstrated above, a NOx-only approach without new VOC controls provides a potential path to ozone attainment for both stations that minimizes the overall tons of emissions reductions needed and has commensurate benefits for PM_{2.5}. Many of the currently available technologies needed for NOx reductions have air toxics and greenhouse gas co-benefits and vice-versa. Reducing NOx emissions will also mitigate adverse health effects associated with inhalation of locally elevated concentrations of NO₂, another criteria pollutant. However, this NOx-only (path C) approach leads to increased ozone concentrations and exposure in the more densely populated areas of the western Basin in the short-term. Consequently, a certain portion of the Basin's population would experience worse ozone air quality at levels above federal standards in the interim years under a NOx only approach. This approach requires an additional NOx reduction beyond adopted regulations of approximately 65-75% to attain the federal ozone standards. While a reduction of this magnitude is challenging and will require significant investments, zero- and near zero- NOx emission reduction technologies are currently available and in limited use and can potentially be widely deployed in the next 10 to 20 years.

VOC-Only Control Strategy (Path A)

A VOC heavy control strategy without additional NOx controls, illustrated by path A in Figure 6, will not lead to attainment of the ozone standards for the eastern Basin, even in the absence of any man-made VOC emissions. This control strategy avoids a short-term increase in ozone inherent in the NOx-only strategy, however, it will not be possible to achieve the ozone standards by reducing VOCs alone. Furthermore, zero- and near zero-VOC technologies for many of the major VOC emitting categories (e.g. consumer products) may take many years for reformulation and market penetration, and are thus less mature than current low NOx technologies.

Combined NOx and VOC Control Strategies

A VOC and NOx combined strategy would require greater combined tons of reductions with greater associated compliance costs than a single pollutant approach. However, a combined strategy will aid in mitigating short-term increases in ozone in certain areas while potentially providing additional benefits for PM_{2.5}, toxics, and greenhouse gases. Note that Path B in the above figures is provided only as an example, and a combined control strategy could lie anywhere between path A and path C that still reaches ozone attainment.

For example, Figure 10 adds two additional emissions reduction scenarios to the Central L.A ozone isopleths in Figure 7. Path D provides just enough additional VOC control (30 - 40 tons per day) to avoid any increases in ozone exposure above the 2023 attainment target of 84.5 ppb (this standard has been revoked, but the 2023 target remains with U.S. EPA's anti-backsliding provisions). Another policy option is Path E, which includes enough early VOC reductions to avoid any increases in ozone exposure in the western Basin. This would require approximately 100 tons per day of additional VOC controls, and for those controls to be timed to occur before the bulk of the NOx controls. In any case, the choice of the optimal path should consider multiple policy goals, including public health, cost-effectiveness, and economic impacts.

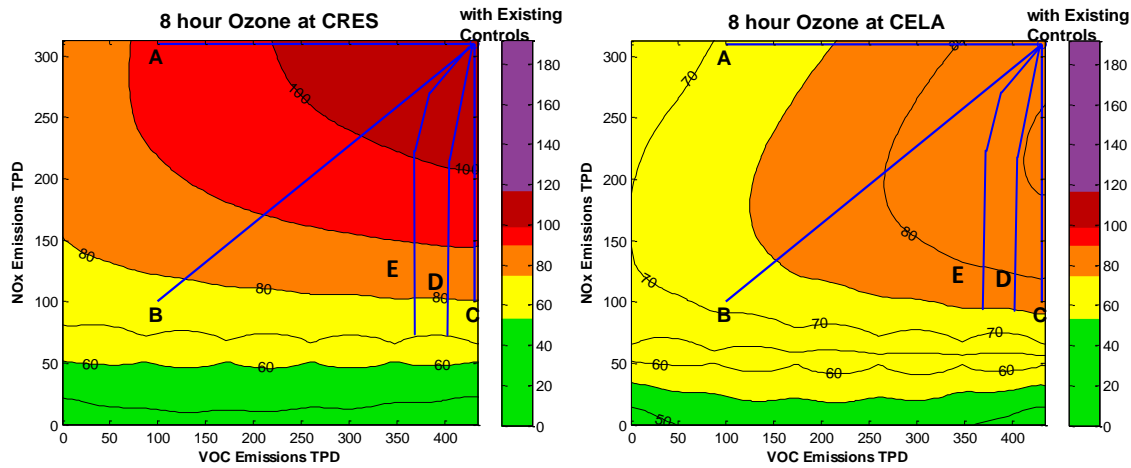


Figure 10: Additional emissions reduction options (Paths D and E) mitigating ozone increases in the western Basin (CELA)

Recommendations- NOx-Heavy Controls with Strategic and Tiered VOC Reductions

Given the availability of technology, climate and $PM_{2.5}$ objectives, a desire to minimize control costs, and the lack of a viable path to attainment with VOC reductions only, a NOx heavy approach with modest VOC controls as shown in Path D is preferred. It is the same path that was taken by both the 2007 and 2012 AQMPs that focuses primarily on NOx reductions, but is augmented with modest VOC reductions to mitigate the higher ozone exposures along the path to attainment. According to this analysis, approximately 200 tons per day of NOx would be needed by 2023, and mitigating the interim ozone increases would require about 30 to 40 tons per day, or less than 10 percent of total anthropogenic VOC emissions beyond the existing adopted rules and regulations. Once the 84.5 ppb level is reached, these or additional VOC reductions would not be needed to avoid increases in ozone exposure. It should be noted that Path D would also result in concurrent $PM_{2.5}$ reductions throughout the entire air basin which are needed to address the current $PM_{2.5}$ annual standard of 12 $\mu\text{g}/\text{m}^3$.

These additional VOC reductions will help to mitigate the increase in ozone in the western Basin inherent in this NOx heavy control strategy. Therefore, a control strategy that continues to focus on NOx reductions, with additional strategic and cost-effective VOC reductions, is the most desirable way to minimize the general public's exposure to unhealthy ozone pollution not only in the target attainment year, but also during the course of the control effort. The next section discusses a prioritized strategy to achieve cost-effective VOC reductions that maximize co-benefits and emphasize non-regulatory approaches.

Note that this analysis is based on the results of analyses conducted for the 2012 AQMP. This analysis will be repeated for the 2016 AQMP with an updated emissions inventory and new attainment demonstration modeling methods from the US Environmental Protection Agency, following the same approach and rationale outlined above. The general findings of the control pathways outlined above is not expected to change, but the amount of reductions needed will be refined to reflect the latest planning assumptions and methodologies.

7. Tiered Approach to VOC Reductions

Based on the above analysis of the overall path to attainment and the role VOCs play in the ozone control program, a strategy that continues to focus on significant NO_x reductions but includes meaningful VOC reductions where appropriate is recommended. In order of priority, the following potential strategy considerations are designed to achieve VOC reductions in a cost-effective and targeted fashion considering the co-benefits from and to other air quality objectives:

1. *Maximize co-benefits from NO_x, GHG or air toxic controls that produce concurrent VOC reductions*

Certain zero- or near-zero NO_x technologies would also lead to VOC reductions. Given the continued NO_x heavy strategy, policies should promote technologies with these additional VOC co-benefits. For example, electric and hydrogen fuel cell vehicles, efficiency measures, or VMT reductions produce both NO_x and VOC reductions; many of these strategies also avoid evaporative losses associated with traditional fuels like gasoline. Similarly, control technologies for GHG or air toxics may also produce concurrent VOC reductions. The 2016 AQMP will aim to better integrate and quantify these VOC reductions into the attainment plan.

2. *Promote pollution prevention at the source with associated cost savings*

Reducing waste at the source is an efficient and effective way to reduce emissions. This strategy could involve the implementation of more robust leak detection and repair (LDAR) programs, including Smart LDAR using advanced infrared or optical technologies. This approach can lead to cost savings as less product is lost through fugitive emissions. In other cases, this approach could reduce the use of VOC containing products and/or the reliance on after-treatment control technology. This also can lead to cost savings. Examples of this are incentives and programs promoting the use of higher transfer efficiency spray painting equipment.

3. *Incentivize super-compliant-zero- and near-zero VOC materials, especially during peak ozone season*

Super-compliant zero and near-zero VOC materials eliminate or drastically reduce emissions during the use of these products. There are several product categories where these materials perform as well as traditional products and are widely available in the market. Incentives to promote the use of super-compliant products containing no or little VOC during ozone season could reduce ozone concentrations when exceedances are typically experienced.

4. *Maximize reductions from existing regulations via enhanced enforcement actions, removal of potential regulatory loopholes, and expanded reporting programs.*

Enhanced enforcement and the tightening of regulatory exemptions that may be used as loopholes in lieu of compliant technologies can lead to reduced emissions. Additionally, recent sales and emissions reporting programs have led to increased understanding of the VOC inventory, incentivized clean technology through fee structures, and better focused

future enforcement and regulatory actions. These enhancements not only ensure that the reductions assumed in the AQMP are actually occurring, but also allow the plan to capture market trends and compliance margins that go beyond the regulatory requirements.

5. *Prioritize emission reductions of the VOC species that are most reactive for ozone and/or PM_{2.5} formation and that produce concurrent air toxic or GHG benefits*

The California Air Resources Board has an active reactivity program to investigate the scientific and policy implications of reactivity-based regulations. Reducing emissions of the most reactive species, considering ozone and PM_{2.5} formation along with enforceability, toxicity, and climate impacts, may be an efficient method to reduce ambient ozone and PM_{2.5} concentrations, achieve multiple environmental and health benefits, while minimizing market disruptions.

6. *Avoid toxicity trade-offs from exempt VOC replacements*

In recent years more and more manufacturers are formulating their compliant products using exempt VOCs, which are VOCs that do not contribute significantly to ozone formation. However, sometimes these compounds may have or be suspected of having health impacts. Their associated potential toxic risks, in comparison with existing products, are a complex issue in terms of how they are being used by workers or the general public and associated work practices to reduce exposure. In some cases, health impacts may involve different health end points (acute vs. chronic or cancer risks) than existing formulations. SCAQMD staff held a one-day technical symposium on this very issue to solicit inputs from experts in the field with no clear conclusions. Emerging from this and other discussions, is a policy debate as to whether we should treat new chemicals as “innocent until proven guilty” (i.e., not toxic until a risk factor is formally assigned by a health agency). In light of the amount of VOC reductions needed for attainment and other available VOC control opportunities, a precautionary approach is recommended that avoids regulatory VOC reductions that could potentially increase the use of more chemicals that are known or suspected to be toxic until it can be demonstrated that they would not create more toxic risks for workers or the public than the compounds they are replacing.

7. *Further evaluation of the practicality and effectiveness for time and place controls*

Most ozone exceedances occur during the months of May through September (the “ozone season”) when higher ambient temperatures and stronger solar intensities accelerate ozone formation rates. In addition, during the ozone season, higher temperatures increase the volatility of organic compounds, leading to accelerated evaporation and larger emissions of precursor compounds. In contrast, PM_{2.5} concentrations are typically highest during the winter months when stagnant weather and temperature inversions trap emissions close to the ground. The implications of controlling ozone and PM_{2.5} sources differently based on location and season can be evaluated further through modeling exercises.

8. Conduct further studies related to VOCs

Over the years, knowledge of the VOC emissions inventory, speciation profiles, and reactivity has improved significantly. Several topics should be further investigated to build a stronger scientific-basis for future VOC control programs. These include optical remote sensing technologies that allow for the detection of emissions in locations where traditional monitoring techniques are not practical. Such fence-line systems could enhance the accuracy of emissions inventories, provide an alarm system in the case of process disruptions, and offer opportunities for real-time feedback for process and emissions control to the facility operator. Furthermore, ongoing and future studies of emissions, evaporation rates, ambient concentrations, ozone formation, and PM_{2.5} formation from SVOCs, IVOCs, and LVP-VOCs will help determine if controlling these compounds could assist the attainment strategies for ozone and PM_{2.5}.

8. Conclusions

While air quality has improved considerably in the SoCAB over the past few decades, further emission reductions must be made to attain the federal standards for ozone and PM_{2.5}. The analysis herein indicates that a NO_x-heavy strategy accompanied by modest VOC reductions will help to avoid temporary increases in ozone concentrations in the western side of the Basin. This finding reaffirms the previous NO_x-heavy SIP strategies to meet both PM_{2.5} and ozone standards, but recognizes that VOC reductions can be given a lower priority. To this end, a strategic VOC control program is recommended for the 2016 AQMP to first maximize co-benefits of NO_x, GHG, and air toxic controls, followed by controls that could create a win-win, “business case” for the affected entities, incentives for super-compliant products, while ensuring and capturing benefits from implementation of existing rules. When additional VOC controls are still needed, it is recommended to prioritize controls that will produce co-benefits for air toxics, GHGs, with a focus on VOC species that are most reactive in ozone and/or PM_{2.5} formation.

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PRELIMINARY DRAFT



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LIST OF ACRONYMS AND ABBREVIATIONS

AQMP	Air Quality Management Plan
Basin	South Coast Air Basin
BC	Black Carbon
CAA	Clean Air Act
CARB	California Air Resources Board
CMAQ	Community Multi-scale Air Quality model
DPM	Diesel Particulate Matter
EC	Elemental Carbon
GHG	Greenhouse Gas
MATES	Multiple Air Toxics Exposure Study
NAAQS	National Ambient Air Quality Standards
NH ₃	Ammonia
NO _x	Nitrogen Oxides
OC	Organic Carbon
PM	Particulate Matter
PM _{2.5}	Particulate Matter with a dynamic diameter less than or equal to 2.5 microns
PM ₁₀	Particulate Matter with a dynamic diameter less than or equal to 10 microns
ppm	Parts per million
RACM	Reasonably Available Control Measure
RACT	Reasonably Available Control Technology
RECLAIM	REgional CLean Air Incentives Market
SCAQMD	South Coast Air Quality Management District
SIP	Standard Implementation Plan
SOA	Secondary Organic Aerosol
SO _x	Sulfur Oxides
SVOC	Semi-Volatile Organic Compound
U.S. EPA	United States Environmental Protection Agency
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compound
µg/m ³	Micrograms per cubic meter
µm	Micrometers

Preface

The purpose of this 2016 Air Quality Management Plan (AQMP) White Paper on Particulate Matter (PM White Paper) is to provide background technical information and present the policy challenges associated with attaining the National Ambient Air Quality Standards (NAAQS) for fine particulate matter (PM_{2.5}), with a focus on the newly adopted federal annual PM_{2.5} standard of 12 micrograms per cubic meter (µg/m³). Annual PM_{2.5} concentrations continue to decrease and the South Coast Air Basin (Basin) is projected to be near attainment of the new annual PM_{2.5} standard once the ozone attainment strategy is fully implemented, but further actions may be needed to ensure attainment. Several scientific and policy issues will be described, including the roles of directly emitted PM_{2.5} emissions and PM_{2.5} precursor gases, and the PM_{2.5} co-benefits from the ozone control program. Key to the policy discussion is the potential need for additional measures for PM_{2.5} given that the attainment strategy cannot rely on the “black box” advanced technology emissions reductions that are used to demonstrate attainment of the ozone standard under federal Clean Air Act (CAA) Section 182(e)(5). Even though the NO_x reductions for the ozone strategy will have significant PM_{2.5} benefits, only specific measures adopted at the time of the 2016 AQMP submittal can be credited towards the PM_{2.5} attainment demonstration. This PM White Paper will address these issues as well as the science behind PM_{2.5} formation, followed by potential PM_{2.5} control approaches including seasonal, episodic or geographically-focused controls.

1. Introduction

The Basin has experienced remarkable improvement in air quality since the 1970's as a direct result of a comprehensive, multi-year strategy of reducing air pollution from all sources. Yet the Basin is still not in attainment of current federal and state air quality standards and, in fact, is still the worst in the nation for ozone. Currently, the Basin is not attaining federal ozone standards or the federal annual and 24-hour fine particulate matter (PM_{2.5}) standards.

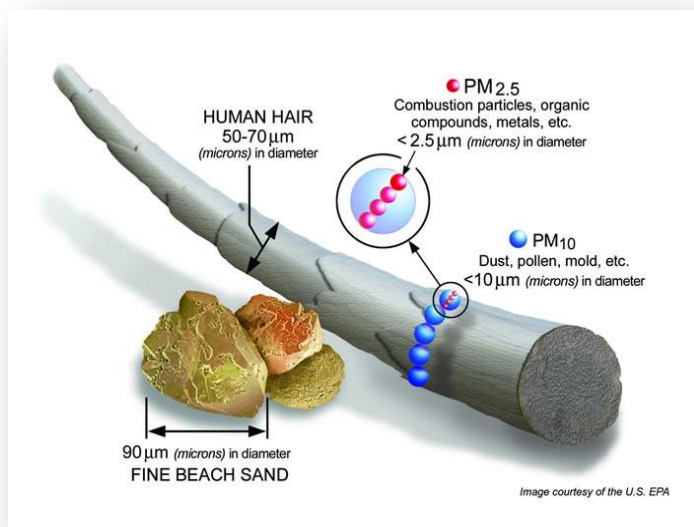
While the 2012 AQMP was designed to bring the Basin into attainment with the 24-hour PM_{2.5} standard by 2015, with additional measures to address the 1997 8-hour ozone standard by 2023, the primary focus of the 2016 AQMP will be to demonstrate attainment of the 2008 ozone standard by 2032 and the annual PM_{2.5} standard by the 2021-2025 timeframe. Attaining the federal ozone standard will have the added benefit of emission reductions that will further improve PM_{2.5} levels.

The purpose of this 2016 AQMP PM White Paper is to provide background technical information and present the policy challenges associated with attaining PM air quality standards. The focus will be primarily on the newly adopted federal annual PM_{2.5} standard of 12 µg/m³, but some emission control measures that can be implemented sooner will help to ensure attainment of the 24-hour PM_{2.5} standard of 35 µg/m³. This PM White Paper will describe the scientific basis of PM_{2.5} formation including the major sources of direct PM_{2.5} and PM_{2.5} precursor gases. The PM reduction co-benefits from ozone control programs and climate change strategies will also be described. Finally, potential strategies for further PM_{2.5} control will be considered.

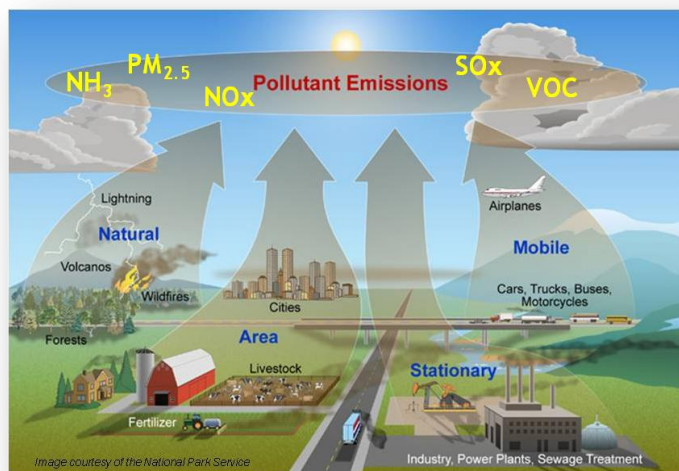
2. Background

PM_{2.5} and Precursors

Particulate matter (PM), also known as particle pollution, is a complex mixture of microscopic solid and liquid particles suspended in air. Particles of concern are classified into two categories: Inhalable coarse particles (PM_{10-2.5}) and fine particles (PM_{2.5}). Inhalable coarse particles are generally created by mechanical or natural processes, such as grinding, sanding, sea spray, windblown dust, and soil. Coarse particles have sizes larger than 2.5 micrometers (μm) and smaller than 10 μm in diameter. Fine particles, such as those found in smoke and haze, are 2.5 μm in diameter or smaller, and are generally



formed by combustion processes or by chemical reactions that occur in the atmosphere. PM_{2.5} is of primary concern because it, once inhaled, can travel deeply into the respiratory tract, reaching the lungs. Scientific studies have linked increases in daily PM_{2.5} exposure with increased respiratory and cardiovascular hospital admissions, emergency department visits, and even deaths. Studies also suggest that long-term exposure to PM_{2.5} may be associated with increased rates of chronic bronchitis, reduced lung function and increased mortality from lung cancer and heart disease. People with breathing and heart problems, children, and the elderly may be particularly sensitive to PM_{2.5}. Recently, an additional particle category known as ultrafine particles (often defined as particles less than 0.1 μm) has been studied and found to have distinct chemical and toxicological properties. However, given that there are no ambient standards for ultrafine particles, and that the purpose of this white paper is to address fine particle standards, issues related to ultrafine and coarse particles are beyond the scope of this discussion.

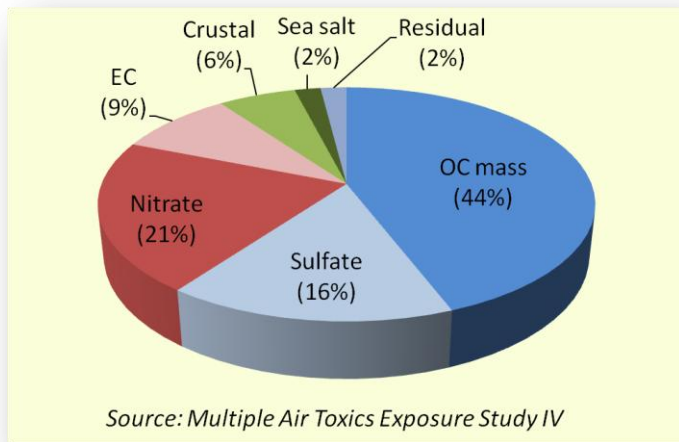


PM in the atmosphere can be categorized as either primary or secondary particles. Primary particles are directly emitted PM from sources, such as construction sites, unpaved roads, sea salt, abrasion, fuel combustion, cooking, or fires. Secondary particles are formed in complex chemical reactions that occur in the atmosphere, often aided by sunlight (known as photochemical reactions). In these reactions, precursor gases, such as volatile organic compounds (VOCs), sulfur oxides (SO_x),

ammonia (NH₃), and nitrogen oxides (NO_x), are transformed into solid or liquid products that contribute to ambient PM levels. NO_x and SO_x will combine with ammonia to form ammonium sulfate or ammonium nitrate salts, which are generally solids at ambient temperatures and can dissolve into water-containing particles. VOCs react with atmospheric oxidants, producing products with lower volatility that condense and form secondary organic aerosol (SOA), another component of PM. Many combustion processes emit both primary PM and precursor gases that ultimately form PM in the atmosphere. For example, in processes such as motor-vehicle gasoline combustion¹ and wood burning², SOA produced by oxidation of the emitted VOCs can exceed the amount of emitted primary organic PM_{2.5}.

“A large portion of PM_{2.5} in the Basin is formed from precursor gases of anthropogenic origin.”

Secondary particles make up the majority of ambient PM_{2.5} in the Basin. Basin-wide average ambient PM_{2.5} speciation profiles³ measured during the recent Multiple Air Toxics Exposure Study (MATES) IV show that the Basin’s PM_{2.5} mass was comprised of four major chemical components: organic carbon (OC), ammonium nitrate, ammonium sulfates, and elemental carbon (EC) with smaller fractions of crustal particles, sea salt, and other trace elements. Elemental carbon (EC), which is similar to the short-lived climate forcing species



Elemental carbon (EC), which is similar to the short-lived climate forcing species

¹ Gordon, T.D., et al. Secondary Organic Aerosol Formation Exceeds Primary Particulate Matter Emissions for Light-Duty Gasoline Vehicles, *Atmos. Chem. Phys.* 2014, 14, 4661-4678.

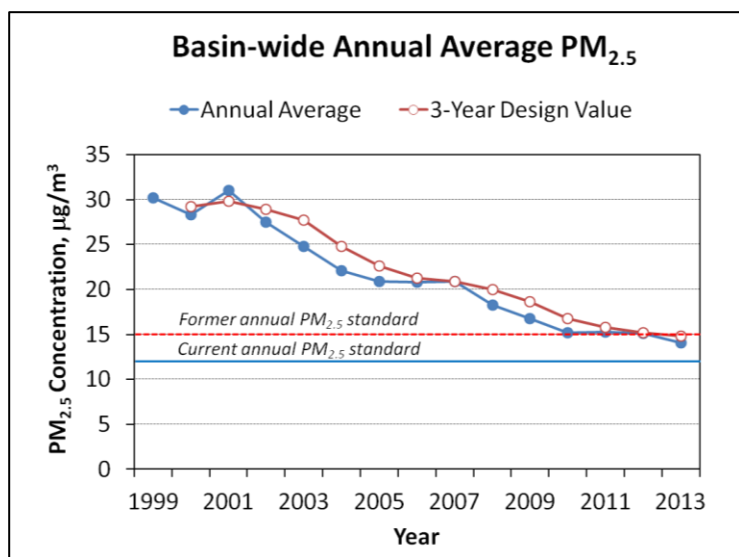
² Hennigan, C.J., et al. Chemical and physical transformations of organic aerosol from the photo-oxidation of open biomass burning emissions in an environmental chamber, *Atmos. Chem. Phys.* 2011, 11, 7669-7686.

³ SCAQMD, Draft Multiple Air Toxics Exposure Study IV, October 3, 2014.

Black Carbon (BC), is an important component of directly emitted PM_{2.5} from internal combustion engines, especially diesel engines. The OC mass portion includes both primary and secondary particle material.

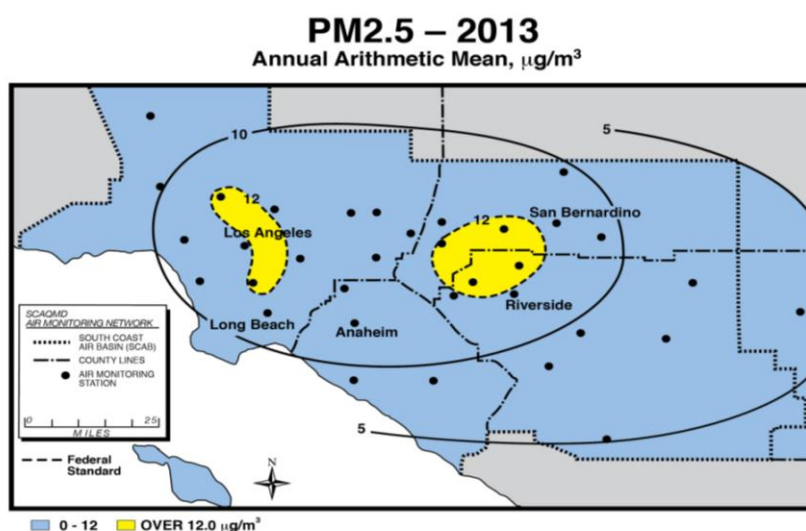
Trends in PM_{2.5} Levels

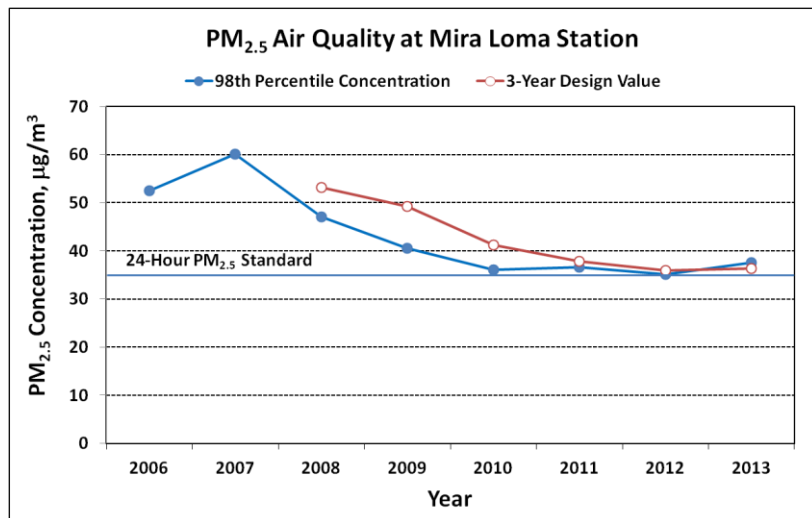
The levels of PM_{2.5} in the Basin have been continually improving since measurements and standards were initiated in the late 1990s. These improvements occurred over a period of significant growth in the Basin’s population, vehicle miles traveled (VMT) and economic activity, and are directly attributable to the region’s air quality control program.



Based on measurement data through 2013, no air monitoring station in the Basin violated the previous 1997 federal annual PM_{2.5} standard (15 µg/m³ for three years), and in December of 2014, U.S. Environmental Protection Agency (U.S. EPA) proposed a clean data determination finding that the Basin has met the 1997 PM_{2.5} standards. This is based on the form of the federal standard, known as the *design value*, which is the 3-year average of the annual PM_{2.5} average, calculated by station.

However, exceedances still occur above the new 2012 annual PM_{2.5} standard of 12 µg/m³ in the San Bernardino and Riverside County metropolitan areas, with the highest levels in Mira Loma. Los Angeles County also exceeded the new PM_{2.5} standard in the Central Los Angeles and East San Fernando Valley areas in 2013. This new standard requires additional reductions of direct PM_{2.5} and PM_{2.5} precursor gases in order to meet the annual PM_{2.5} standard by the 2021-2025 statutory timeframe.



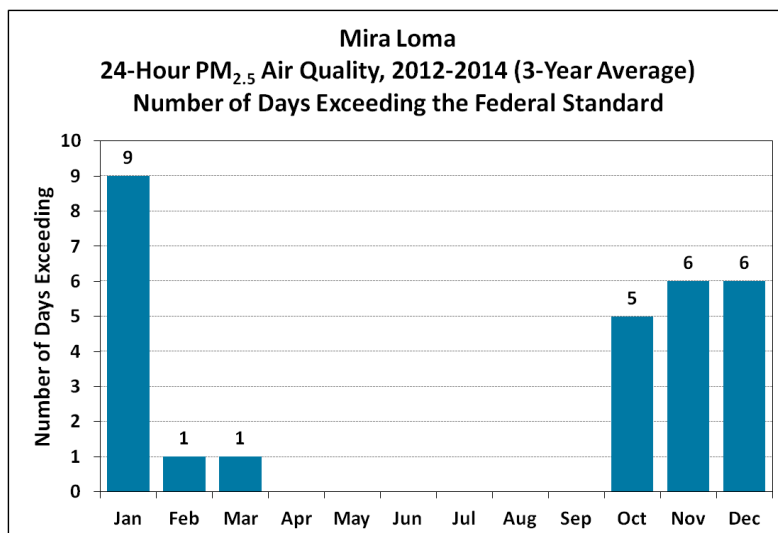


Despite significant progress, the Basin remains in nonattainment for the current 24-hour PM_{2.5} federal standard of 35 µg/m³. As of 2013, the 24-hour PM_{2.5} *design value* (in this case, the 3-year average of annual 98th percentile of the monitored 24-hour concentrations by station), exceeds the federal 24-hour PM_{2.5} standard at only one air monitoring station in Mira Loma in northwestern Riverside County. The 2012 AQMP projected attainment of the 24-

hour PM_{2.5} standard by the end of 2014. However, preliminary monitoring data through June of 2014 indicates that attainment of this standard is not likely to be achieved, largely because of the unanticipated air quality impacts of the severe drought conditions in California. The lack of winter storms and associated rainfall leads to dryer and thus more emissive ground surfaces as well as reduced cleansing and dilution of atmospheric particles. The drought has not only affected PM_{2.5} levels in Southern California; many areas across the state have experienced this reversal in long-term downward trends of PM_{2.5} levels.

In addition, a recent court decision has compelled U.S. EPA to implement PM_{2.5} standards according to the federal CAA, Title 1, Part D, Subpart 4 (hereafter “Subpart 4”) planning requirements specific to PM₁₀, rather than the general pollutant planning requirements (Subpart 1). Subpart 4 provides for attainment by 2015, with potential extensions. In February 2015, the South Coast Air Quality Management District (SCAQMD) Governing Board approved a Supplement to the 2012 AQMP 24-hour PM_{2.5} SIP for the Basin to comply with Subpart 4 and target attainment in 2015. The Governing Board also directed SCAQMD staff to bring forward early action measures for PM_{2.5} to ensure progress towards attainment under continuing drought conditions. The Supplement was subsequently approved by California Air Resources Board (CARB) and has been submitted to U.S. EPA for consideration.

While ozone concentrations peak in the summer months, PM levels can be high at anytime of the year, but are typically higher in winter months. These higher winter values are specifically influenced by wintertime temperature inversions and stagnant conditions that reduce atmospheric dilution and trap emissions near ground level.



Furthermore, sources such as wood burning have increased emissions during colder weather. Consistent with U.S. EPA guidance, seasonal, episodic, or geographical controls that focus on bringing the Mira Loma station into compliance can continue to be considered as a method to bring the Basin into attainment.

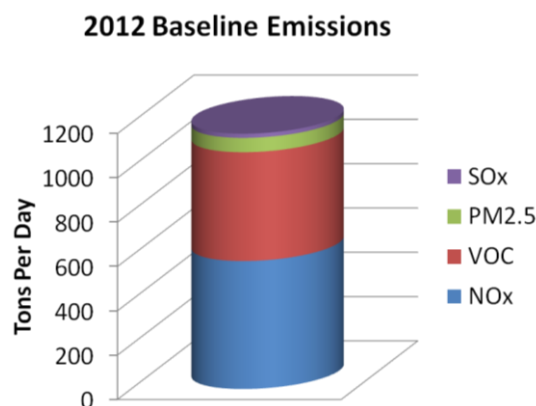
3. Assessing Future Control Strategies

Emission Sources of PM_{2.5}

As mentioned above, most PM_{2.5} in the Basin is formed in the atmosphere, and thus a full picture of the sources of PM_{2.5} must also consider precursor gases. Based on the emissions inventory for 2012, there were 578 tons of NO_x emissions per day, 491 tons of VOC emissions, 65 tons of directly emitted PM_{2.5} emissions, and 19 tons of SO_x emissions. The Top 10 emission sources of direct PM_{2.5} and its precursor gases are contained in Appendix A.

“Trucks are the No. 1 source of NO_x emissions that form both ground-level ozone and PM_{2.5} in the atmosphere.”

On-road and off-road vehicles emit more than 80% of the total NO_x emissions combined. Consumer products solvent evaporation was the single largest contributor to VOC emissions. Mobile (on- and off-road) sources collectively emit more than half of the total VOC emissions. Transportation sources, such as ships, commercial boats, and aircraft, account for more than one-third of the total SO_x emissions. RECLAIM SO_x sources emit another one-third of the SO_x emissions, and service and commercial processes and passenger cars are next largest contributing source categories.



Commercial cooking is the largest emission source of directly emitted PM_{2.5}, followed by residential fuel combustion and paved road dust. These top sources are largely uncontrolled sources of directly emitted PM_{2.5}. The content of particles emitted from commercial cooking, the majority of which comes from under-fired charbroiling of meat, are almost all organic carbon⁴, and studies have shown that commercial meat-cooking contributes more than 20% of the PM_{2.5} organic carbon fraction in Los Angeles air.⁵ Residential fuel combustion is the second largest emission source of directly emitted PM_{2.5}, mostly in the form of wood stove and fireplace wood burning.

⁴ McDonald, J.D. et al. Emissions from charbroiling and grilling of chicken and beef. JAWMA, 2003, 53, 185-194.

⁵ Norbeck, J. *Standardized Test Kitchen and Screening Tools Evaluation for South Coast Air Quality Management District Proposed Rule 1138*; Prepared under Contract No. S-C95073 for the South Coast Air Quality Management District, El Monte, CA, by CE-CERT: University of California, Riverside, CA, 1997.

Control Effectiveness

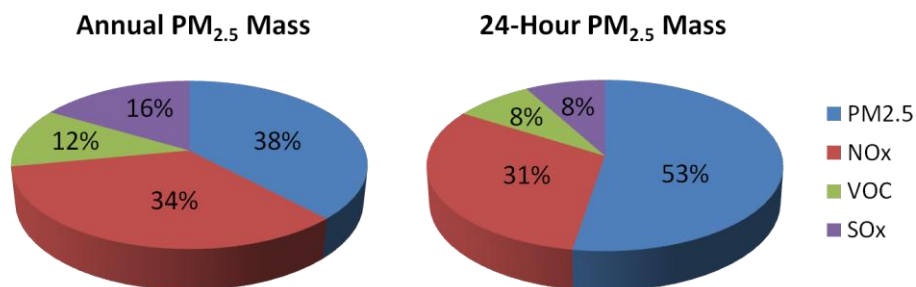
In the SCAQMD’s 2012 AQMP, a detailed computer air quality model (CMAQ v4.7.1) was used to estimate the regional reductions of ambient PM_{2.5} concentrations that result from reductions in PM precursor emissions. On a ton-per-ton basis, primary PM_{2.5} and SO_x emissions controls were found to be the most effective in reducing PM_{2.5} mass concentrations, compared to NO_x emissions controls. VOC emissions reductions had the lowest effect on reducing annual PM_{2.5} mass concentration. As shown, this comparative effectiveness of emissions reductions is different for the 24-hour PM_{2.5} standard, and may also change with season and location in the Basin.

Comparative Effectiveness of Reductions To Achieve Federal PM _{2.5} Air Quality Standards				
	NO _x	SO _x	VOCs	PM _{2.5}
Annual PM _{2.5} Standard	1	15	0.4	10
24-hour PM _{2.5} Standard	1	8	0.3	15

However, the CMAQ model, while state-of-the-art, has been shown to significantly underestimate SOA formation from VOCs⁶. Future versions of CMAQ will strive to eliminate this under prediction as additional SOA formation processes are better understood and incorporated in the model.

Using 2012 emissions inventories weighted by the relative effectiveness factors, contributions of precursor emissions to achieving both annual and 24-hour PM_{2.5} standards were estimated. For example, while SO_x has a higher relative effectiveness factor than NO_x, total emissions of NO_x are much greater than those of SO_x. Therefore, as shown in the charts below, NO_x and PM_{2.5} contribute more to PM_{2.5} levels than SO_x or VOC. As shown, controls of NO_x emissions will make a significant contribution to reducing annual PM_{2.5} mass concentrations, and thus meeting the federal annual PM_{2.5} standard.

Weighted Contributions of Precursor Emissions (2012)



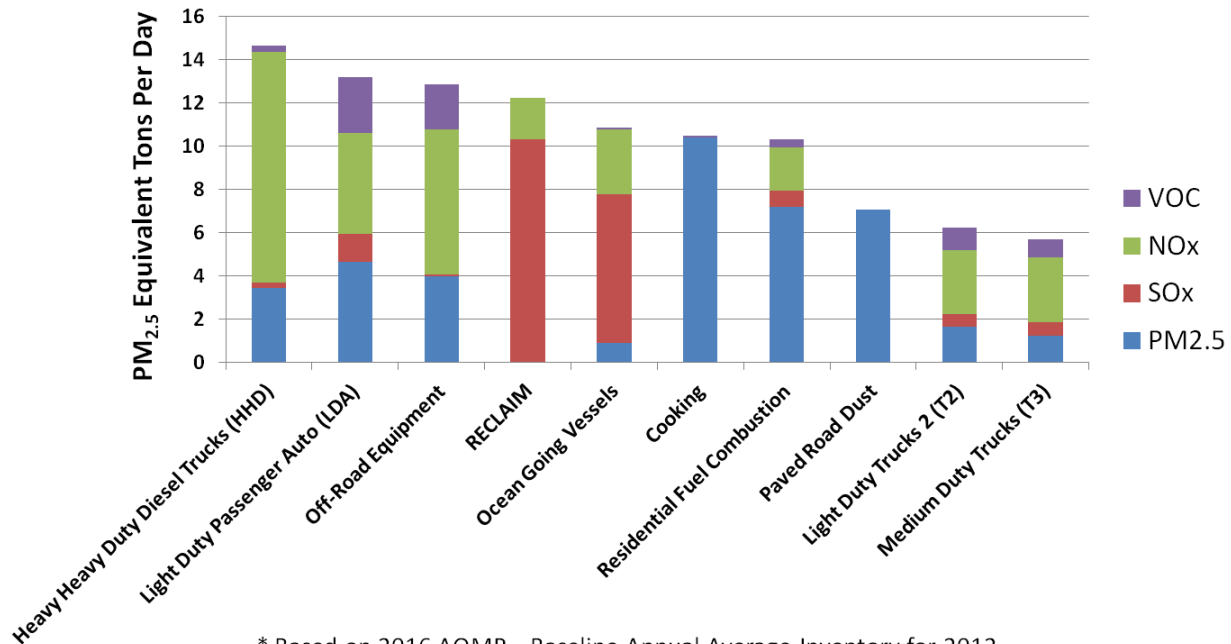
Attaining the ozone standards requires significant reductions in emissions of NO_x well above and beyond those resulting from current rules, programs, and commercially available

⁶ Carlton, A.G., et al. Model Representation of Secondary Organic Aerosol in CMAQ v4.7, *Environ. Sci. Technol.* 2010, 44, 8553-8560

technologies. Most of these additional reductions now rely on the development of new control techniques or improvement of existing control technologies, also known as “black box” measures, as authorized under Section 182(e)(5) of the federal CAA. These “black box” measures, if implemented successfully, will not only allow attainment of the ozone standards, but will also provide significant help in reaching PM_{2.5} standards. In fact, if NO_x emissions reductions designed to meet the former ozone standard in 2023 are achieved, PM_{2.5} levels in the Basin are projected to be very near, if not meeting, the current 2012 federal annual PM_{2.5} standard of 12 µg/m³ by that time. However, attainment of the PM_{2.5} standard may not rely on Section 182(e)(5) measures.

More detailed analysis of the emissions categories contributing to ambient PM_{2.5} mass, using the weighting factors for precursors described above, shows what emission sources could be prioritized for a focused and cost-effective PM control program. Area sources, such as commercial cooking, residential fuel combustion, and paved road dust are major contributors to ambient PM_{2.5}, primarily through direct PM_{2.5} emissions. Mobile sources, both on-road and off-road, are also significant sources of PM_{2.5}, both through direct PM_{2.5} emissions but also precursors such as NO_x.

Emissions Categories Contributing to Annual PM_{2.5} Mass



* Based on 2016 AQMP – Baseline Annual Average Inventory for 2012

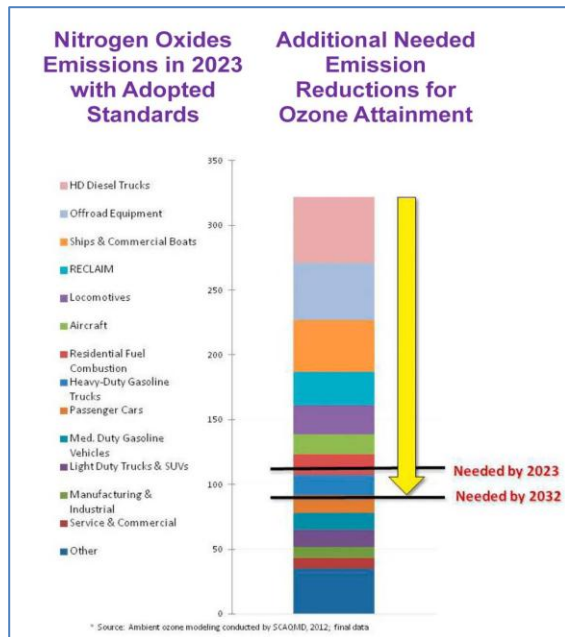
4. Recommendations - Path to PM_{2.5} Attainment in the 2016 AQMP

Control Strategy

Through the 2007 and 2012 AQMPs, it was demonstrated that the previous control strategies employed for the PM₁₀ and 1-hour ozone SIPs also benefited PM_{2.5} and 8-hour ozone reductions. Taking the same multi-pollutant approach to assess strategies for the 2016 AQMP suggests that a heavy NO_x strategy is the most efficient approach for the reduction of fine particulate matter because NO_x reductions are needed anyway for the 1-hour and 1997 8-hour ozone standards with approximately the same timeframe for the federal annual PM_{2.5} attainment demonstration. The PM_{2.5} strategy can be further augmented with targeted and cost-effective directly emitted PM_{2.5} and SO_x controls when needed if NO_x controls from other control programs are insufficient, not timely, or do not materialize.

Based on the above discussion, several attainment paths can be developed with varying degree of controls among directly emitted PM_{2.5} and PM precursors. Selecting the most efficient path for PM_{2.5} attainment takes into consideration many factors, such as the amount of total reductions needed, technology readiness, attainment deadlines, and the inter-relationship with other NAAQS pollutants such that the control strategy does not need to make drastic mid-term adjustments, thus minimizing potential control costs. The following sections describe the staff recommendations for a prioritized approach in the development of a PM_{2.5} attainment strategy.

1) Co-Benefits from the Ozone NO_x Strategy



Many of the most significant direct PM_{2.5} and PM_{2.5} precursor emission sources are already well controlled, but additional reductions from implementation of adopted control measures from the 2007 and 2012 AQMPs may still not be adequate for attainment of the new federal annual PM_{2.5} standard. PM_{2.5} levels will be further reduced from the additional NO_x emissions reductions needed for the ozone control strategy. The 2012 AQMP specifies approximately another 200 tons per day of NO_x reductions needed to meet the 1-hour and 1997 8-hour ozone standards by 2023 and 2024, respectively. This is within the timeframe of 2012 annual PM_{2.5} standard attainment deadline of 2021-2025. Preliminary projections suggest that without any additional PM controls, but with the ozone NO_x strategy alone, the Basin's annual PM_{2.5} design value would be the very near the standard of 12 µg/m³ in 2023.

Given the goal of developing the most efficient and cost-effective path to meeting all clean air standards, and given that these NO_x reductions are needed for ozone attainment anyway, the most desirable path is to control NO_x emissions, not only from stationary and area sources, but

more so from mobile sources that fall under state and federal jurisdiction. Significant reductions are needed from on-road vehicles, off-road engines, ships, and locomotives to achieve the necessary NO_x reductions to meet the federal ozone standards. The 2016 AQMP will capture the anticipated NO_x reductions from the ozone plan, as well as anticipated concurrent reductions of VOCs, SO_x, and directly emitted PM_{2.5} from zero tailpipe emission technologies or efficiency measures that reduce vehicle trips/vehicle miles traveled.

2) Co-Benefits from Climate Change or Air Toxic Control Programs

SCAQMD staff recognizes, to the extent available under the U.S. EPA's PM_{2.5} implementation rule, that there are several near-term measures that are being pursued by CARB under the AB 32 Scoping Plan, such as reductions in short-lived climate forcers such as BC. Comprised of microscopic particles emitted from incomplete combustion of biomass, wood, and fossil fuels, BC is a major contributor to global climate change and also a primary component of diesel particulate matter (DPM). Cutting BC emissions would immediately result in reduction of the rate of warming, as well as PM_{2.5} benefits. Identifying the most promising control measures or mitigation options to address BC emissions reductions in the areas of stationary and mobile sources, residential wood combustion, and open biomass burning will provide climate change as well as PM_{2.5} benefits in the near term.

Air toxic control programs reducing DPM or toxic metals would also contribute to PM_{2.5} reductions. Despite significant decreases in air toxics exposure over the past couple of decades, the recent SCAQMD MATES IV results continue to show unacceptably high risk of exposure to DPM, representing two-thirds of the overall air toxic cancer risk. This result emphasizes that continuous efforts towards reducing DPM emissions are needed at local, state, and federal levels and via cooperation with the ports, airports, and other stakeholders. Alternative fueled vehicles with significant zero emission miles traveled, along with coordinated land use and transportation planning with the goal of reducing VMT, will contribute to reduction of DPM, GHG, as well as NO_x emissions. Toxic metals emitted from industrial processes can cause risks to public health and the environment. SCAQMD will continue to develop new rules or amend existing rules by strengthening requirements to reduce toxic metal emissions and exposure from various metal industry sources. These measures, although not developed for SIP purposes, will achieve concurrent reductions in directly emitted PM_{2.5} and should be quantified and credited toward needed SIP reductions.

3) Outreach and Incentive Programs

Other programs supporting PM control measure implementation are also important to ensure expected emission reductions are being realized. These programs include outreach and incentive programs. SCAQMD staff utilizes a variety of tools to raise public awareness and understanding of the significance and health effects of particle pollution and thus, the importance of PM controls to protect public health. Enhanced public outreach should continue to be pursued by various means, including targeted and focused communications campaigns, community workshops, educational brochures and videos, and other digital media formats.

Incentive funding for stationary sources can be pursued and best applied where controls are cost-effective, but not necessarily affordable by the affected sources, especially when controls are

considered for smaller businesses. Such incentive funds can be used to subsidize low-emitting equipment purchases either by businesses or the public. Funding for such incentive programs can originate from state and federal grants, penalties collected from industry, and other sources.

4) Additional Measures for PM_{2.5} Attainment

Since the federal CAA does not allow for reliance on future technologies (i.e., “black box,” Section 182(e)(5) measures) in the PM_{2.5} attainment plan, portions of NO_x controls that are part of the ozone attainment strategy may be not eligible for inclusion as SIP measures for PM_{2.5} purposes. For this reason, additional measures to ensure attainment will need to be evaluated and implemented where needed. Suggested control concepts based on the Reasonably Available Control Technology (RACT) or Reasonably Available Control Measure (RACM) analysis for PM_{2.5} and its precursors as part of the 2016 AQMP will be evaluated for their feasibility and applicability for this air basin. Any additional measures needed to meet the RACT/RACM requirements will be further developed for inclusion in the 2016 AQMP.

Based on the PM_{2.5} formation potentials described above, if additional reductions are still needed for timely PM_{2.5} attainment demonstration, additional SO_x and/or direct PM_{2.5} measures should be first priority. Examples of such measures can be found in Appendix B.

In developing the PM_{2.5} strategy, geographic, seasonal, and episodic controls should also be considered as they minimize compliance costs while targeting emissions reductions when and where they are needed. Examples of these measures are contained in Appendix C. Such targeted measures will have even greater benefits for avoiding exceedances of the 24-hour PM_{2.5} standard given that the exceedances are episodic and occur almost exclusively in the colder months. As attainment deadlines for the 24-hour standard are imminent, PM_{2.5} measures arising from the 2016 AQMP development process that can help to ensure timely attainment of the 24-hour PM_{2.5} standard should be developed and adopted as early action measures, parallel to the 2016 AQMP development.

Continuing Research and Scientific Studies

Continuing research and scientific studies are needed to better quantify organic compounds and their contribution to PM_{2.5} formation. In the Basin, approximately 30-50% of the PM_{2.5} mass is composed of organic compounds. However, the organic component of PM_{2.5} in the Basin needs further study as certain semi-volatile organic compounds (SVOC) have not been historically inventoried, controlled or incorporated in regional air quality modeling. Continuing research and scientific studies are required to better quantify SVOC emissions and their contribution to PM_{2.5} formation.

The role of ammonia emissions will also be examined further in the 2016 AQMP modeling analysis. Some areas within the Basin may be saturated with ammonia now or in the future relative to SO_x and NO_x, and thus modest ammonia controls may have little effect. Other areas may show that ammonia controls are effective in reducing ambient PM_{2.5}. Even if large ammonia reductions may have benefits, it may not be feasible given the nature of the sources.

Summary

The 2016 AQMP modeling analysis and attainment demonstration analysis will provide refinement to the analysis described above, but it is clear that an integrated approach to multiple air quality challenges will minimize control costs while achieving multiple goals. It is clear that a NO_x-heavy control strategy will not only provide for attainment of the ozone standards, but also provide significant co-benefits for the reduction of fine particulate matter. Concurrent targeted, strategic, and timely reductions in directly emitted PM_{2.5} and precursors can ensure meeting the federal annual and 24-hour PM_{2.5} standards by the attainment deadlines.

[↑ Back to Agenda](#)

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 30

PROPOSAL: Adopt Executive Officer's FY 2015-16 SCAQMD Budget and Work Program and Authorize Mid-Year Budget Adjustments, Transfers, Purchase of Vehicles, and Hearing Board Compensation.

SYNOPSIS: The Executive Officer's Budget and Work Program for FY 2015-16 represents the input over the past several months from Board members, staff, and the public. This action requests the required appropriations and reserves necessary to adopt the proposed budget, including the approval of the SCAQMD FY 2015-16 Goals and Priority Objectives. The proposed budget incorporates the CPI adjustment pursuant to Rule 320 as well the second year phase-in of the additional 3% increase to Annual Operating Permit Renewal and Permit Processing Fees to better align program costs with revenues. This action also includes requests for mid-year budget adjustments, a transfer to the Infrastructure Improvement Fund, the purchase of vehicles, and a change to Hearing Board compensation.

COMMITTEE: Budget Study Session, April 10, 2015; Reviewed

RECOMMENDED ACTIONS:

1. Remove from Reserves and Designations all amounts associated with the FY 2014-15 Budget;
2. Approve appropriations in the Major Objects for FY 2015-16 of:

Salary and Employee Benefits	\$110,766,918
Services and Supplies	25,728,382
Capital Outlays	<u>722,500</u>
Total	<u>\$137,217,800</u>

3. Approve a projected June 30, 2016 Fund Balance of the following:

Classification ¹	Reserve/Unreserved Designation	Amount
Committed	Reserve for Encumbrances	\$ 6,976,000
Nonspendable	Reserve for Inventory of Supplies	80,000
Assigned	Designated for Enhanced Compliance Activities	883,018
Assigned	Designated for Litigation/Enforcement	1,600,000
Assigned	Designated for Other Post Employment Benefit (OPEB) Obligations	2,952,496
Assigned	Designated for Permit Streamlining	288,385
Assigned	Designated for Self-Insurance	2,000,000
Assigned	Designated for Unemployment Claims	80,000
Total Reserves & Unreserved Designations		\$14,859,899
Unassigned	Undesignated Fund Balance	\$ 30,062,622

4. Approve revenues for FY 2015-16 of \$134,980,310;
5. Approve the addition of three net authorized/funded positions as detailed in the FY 2015-16 Draft Budget;
6. Approve the SCAQMD FY 2015-16 Goals and Priority Objectives as previously discussed and included in the FY 2015-16 Draft Budget and Work Program;
7. Increase the FY 2014-15 General Fund revenue budget and approve the transfer of \$1,127,500 from the Undesignated Fund Balance to the Infrastructure Improvement Fund (Fund 02) for building infrastructure projects as described in Table 1;
8. Increase the FY 2014-15 General Fund revenue budget by \$640,000 and appropriate \$600,000 to District General's FY 2014-15 Budget, Capital Outlay account, Capital Outlay Major Object, for the replacement of SCAQMD fleet vehicles and \$40,000 to Science and Technology Advancement's FY 2014-15 Budget, Capital Outlay account, Capital Outlay Major Object, for the replacement of a CNG van for use in air monitoring efforts as described in Table 2;
9. Authorize the Executive Officer to issue an RFQ and execute the subsequent purchase order(s) for the purchase of fleet vehicles and a CNG van for air monitoring in an amount not to exceed \$640,000;

¹ The terms Committed, Nonspendable, Assigned, and Unassigned are terms established by the Government Accounting Standards Board.

10. Approve adjustments to compensation for Hearing Board members and their alternates effective on January 2015, 2016 and 2017 as authorized and directed by Resolution No. 07-23.

Barry R. Wallerstein, D.Env.
Executive Officer

MBO:lg

Background

Budget

The period covered by the FY 2015-16 budget is from July 1, 2015 to June 30, 2016. The General Fund budget is the agency's operating budget and is structured by Office and account. The accounts are categorized into three Major Objects: Salaries and Employee Benefits, Services and Supplies, and Capital Outlays. The budget is supplemented with a Work Program which estimates staff resources and expenditures along program and activity lines. A Work Program Output Justification is completed for each Work Program which identifies performance goals, measurable outputs, legal mandates, activity changes and revenue categories.

The annual expenditure and revenue budget for the General Fund is adopted on a modified accrual basis. All annual expenditure appropriations lapse at fiscal year-end if they have not been expended or encumbered. Throughout the year, budget amendments may be necessary to accommodate additional revenues and expenditure needs.

The Executive Officer's Budget and Work Program for FY 2015-16 represents the input over the past several months from Board members, the public, and staff. This year's process included meetings with the Budget Advisory Committee; a public hearing held on April 3, 2015 to take input on the SCAQMD's FY 2015-16 Draft Goals and Priority Objectives (included on pages 50 – 55 of the budget document); and two budget workshops, one held for the public and one held for the Board, on April 10, 2015.

Infrastructure Improvement Fund

The Board established the Infrastructure Improvement Fund to separately account for large-scale and/or multi-year infrastructure improvement projects. With SCAQMD's aging Headquarters facilities and information technology infrastructure, improvement projects are of a larger size and scope that may extend over one or more fiscal years. A separate fund accommodates the financing and accounting for these types of improvement projects.

Vehicle Replacement

The proposed fleet vehicles to be replaced are older sedans and vans with high mileage, high maintenance costs, and/or CNG tanks that will expire in FY 2015-16. They are prone to breakdowns and often need costly repairs. Once the CNG tanks expire, the vehicles must be taken out of service or the tanks replaced. The proposed CNG van to be replaced has 191,000 miles and is in poor mechanical condition. It is used by Atmospheric Measurements to transport staff and equipment to air monitoring stations.

Hearing Board Compensation

The Board approved Resolution No. 07-27, in 2007, which authorizes and directs adjustments to compensation for Hearing Board members and their alternates.

Proposal

Budget

The budget for FY 2015-16 proposes expenditures of \$137,217,800 and revenues of \$134,980,310, using prior year revenues to supplement FY 2015-16 estimated revenues. The budget is based on the Goals and Priority Objectives presented to the Board at the April 3, 2015 meeting.

The proposed FY 2015-16 budget represents an increase of \$4,997,726 (4%) in total expenditures from the budget adopted by the Board in June 2014. Staff is proposing the addition of three net positions for FY 2015-16, including new positions for the Air Quality Sensor Performance Evaluation Center (AQ-SPEC), a new internship program for transitional youth, and a position in the Engineering and Compliance Office. In Services and Supplies, the proposal for FY 2015-16 is 5% above the FY 2014-15 adopted budget due to additional contractual costs for outside building related consultants, community outreach, and planning and rule development activities. Capital Outlays are decreasing 32% from the FY 2014-15 adopted budget as several capital projects will be funded by Special Revenue Funds.

The proposed FY 2015-16 budget represents an increase of \$2,760,236 (2%) in total revenue from the budget adopted by the Board in June 2014. It assumes a 1.4% fee increase based on the change in the California Consumer Price Index as well as the second year phase-in of the Board approved additional 3% increase to Annual Operating Permit Renewal and Permit Processing Fees to better align program costs with revenues.

Infrastructure Improvement Fund & Vehicle Replacement

Included is a proposed increase in the FY 2014-15 General Fund Revenue budget of \$1,767,500 from unexpected one-time revenues. Of this amount, it is proposed that \$1,127,500 be transferred to the Infrastructure Improvement Fund (Fund 02) for the building infrastructure projects described in Table 1 and the remaining balance of \$640,000 be appropriated in the FY 2014-15 Budget as described in Table 2.

Table 1

**Proposed Transfer from the General Fund (01) to the
Infrastructure Improvement Fund (02)**

Description	Amount
Auditorium Document Camera Enhancement (Pan & Zoom)	\$21,500
GB Conference Room Audio/Visual Enhancements	256,000
Hearing Board Video Recording/Webcast Enhancements	145,000
Replace 800 ton Cooling Towers	300,000
Replace Aging Kitchen Equipment	60,000
Replace Air Volume Controllers in the Lab	150,000
Replace Furnishings in GB Conference Room	45,000
Convert Pneumatic Controls to DDC (Direct Digital Control)	150,000
Total	\$1,127,500

Table 2

Proposed FY 2014-15 General Fund (01) Appropriations/RFQ/PO

Description	Qty	Amount	Unit	Major Object
Fleet Vehicles	18	\$600,000	DG	Capital Outlay
CNG Van	1	40,000	STA	Capital Outlay
Total		\$640,000		

The proposed infrastructure projects described in Table 1 will be brought back to the Board at a later date for approval to issue RFP/RFQ's and contract/purchase order execution. The proposed vehicles described in Table 2 will be purchased in the current fiscal year through the release of an RFQ and subsequent purchase order(s).

It is anticipated that the fleet vehicles purchased will be CNG sedans, for a combination of the following reasons: a.) cost, b.) range, c.) readily available fueling infrastructure, d.) HOV sticker availability, e.) demonstrated reliability/longevity, f.) fleet homogeneity, and g.) available trunk space. Staff will perform additional analysis for potential future fleet vehicle purchases based on experience derived from current demonstration vehicles operated by the District and other available information.

Hearing Board Compensation

It is proposed that adjustments be made to the compensation for Hearing Board members and their alternates to be effective on January 2015 (2%), 2016 (1.5%) and 2017 (1.5%) as authorized and directed by Resolution No. 07-23.

Resource Impacts

The proposed FY 2015-16 budget assumes a 1.4% fee increase, consistent with Rule 320 which was adopted by the Board on October 29, 2010 and allows for an increase of fees based on the change in the California Consumer Price Index. In accordance with Rule 320, the Draft Socioeconomic Assessment for Automatic Consumer Price Index (CPI) Increase was made available to the public on March 13, 2015 and public comments and responses, along with recommendations by the Budget Advisory Committee, were provided to the Board by the April 15 deadline. The proposed FY 2015-16 Budget also includes the second-year phase-in of the additional 3% increase to Annual Operating Permit Renewal and Permit Processing Fees to better align program costs with revenues.

Copies of the Draft Budget and Work Program for FY 2015-16 have been transmitted to the Board under separate cover. Copies for public review are available in the SCAQMD Library and the document is also available via SCAQMD's web site at <http://www.aqmd.gov/docs/default-source/finance-budgets/fy-15-16/fy2015-16draftbudget.pdf?sfvrsn=2>. Budget abstracts are available by request from the Public Information Center (909) 396-3600.

The building infrastructure improvement projects and vehicles identified in this Board letter, not to exceed \$1,767,500, will be funded using one-time revenues received in FY 2014-15. Hearing Board members and alternates compensation increases for January 2015 will be funded through the existing FY 2014-15 budget and future increases have been included in the FY 2015-16 proposed draft budget.

Attachment

Attachment – Addendum to FY 2015-16 Draft Budget and Work Program



South Coast Air Quality Management District

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(909) 396-2000 • www.aqmd.gov

April 23, 2015

Addendum to the Fiscal Year 2015-16
Draft Budget and Work Program
of the
South Coast Air Quality Management District

The following pages in the Fiscal Year 2015-16 Draft Budget and Draft Work Program have been revised: Pages 4 and 6. These pages were revised to reflect requested changes at the Governing Board Budget Study Session on April 10, 2015.

The Draft Budget and Work Program is available via SCAQMD's website at <http://www.aqmd.gov/docs/default-source/finance-budgets/fy-15-16/fy2015-16draftbudget.pdf?sfvrsn=2>.

Attachments

attainment of federal health standards. In November 2008, U.S. EPA revised the lead standard from a 1.5 $\mu\text{g}/\text{m}^3$ quarterly average to a 0.15 $\mu\text{g}/\text{m}^3$ rolling 3-month average and added new near-source monitoring requirements. The Los Angeles County portion of the Basin has since been designated non-attainment for lead due to monitored concentrations near one facility. However, the most recent 2013 data shows that the Basin meets the current lead standard. U.S. EPA revised the 8-hour ozone standard, effective May 2008, from concentrations exceeding 0.08 ppm to concentrations exceeding 0.075 ppm. In 2013, the current federal 8-hour ozone standard was exceeded on 94 days, the second lowest number of exceedance days ever recorded, based on preliminary 2014 data. The federal ozone standard was exceeded on 88 days in 2013 and 111 days in 2012. The maximum observed ozone levels show some year-to-year variability, but have generally been decreasing over the years. The highest 8-hour ozone level in the 2014 preliminary data was 0.114 ppm, compared to 0.122 ppm and 0.112 ppm in 2013 and 2012 respectively.

In 2007, U.S. EPA formally re-designated the Basin from nonattainment to full attainment of the federal health standard for carbon monoxide. Basin-wide maximum levels of carbon monoxide have been consistently measured at more than 30% below the federal standard since 2004. In 2010, U.S. EPA established a new NO_2 1-hour standard at a level of 100 ppb (0.100ppm) and SO_2 1-hour standard at a level of 75 ppb (0.075 ppm). In 2014, one site exceeded the 1-hour NO_2 standard on one day in the preliminary data; however, this does not jeopardize our attainment status. That is determined by the NO_2 design value which is the 98th percentile value averaged over three years.

In 2006, U.S. EPA rescinded the annual federal standard for PM_{10} but retained the 24-hour standard. Ambient levels of PM_{10} in the Basin meet the federal 24-hour PM_{10} standard. U.S. EPA has re-designated the Basin as in attainment of the health based standard for PM_{10} . $\text{PM}_{2.5}$ levels have decreased dramatically in the Basin since the beginning of the decade; however, design value concentrations are still slightly above the federal annual and 24-hour standards at one monitoring station. While our air quality continues to improve, the South Coast Air Basin remains one of the most unhealthful areas in the nation in terms of air quality.

Mandates

The SCAQMD is governed and directed by several state laws and a comprehensive federal law which provide the regulatory framework for air quality management in this Basin. These laws require the SCAQMD to take prescribed steps to improve air quality.

Generally speaking, SCAQMD is responsible for stationary sources such as factories and businesses. ~~The~~ CARB and U.S. EPA ~~is~~are primarily responsible for motor vehicles. The SCAQMD and CARB share responsibilities with respect to area sources. The SCAQMD and Southern California Association of Governments (SCAG) share some responsibilities with CARB regarding some aspects of mobile source emissions related to transportation and land use. Control of emissions from sources such as airports, harbors, and trains is shared by the U.S. EPA, CARB and the SCAQMD. Without adequate efforts by CARB and U.S. EPA to control emission sources under their sole authority, it is impossible for the region to reach federal clean air standards.

State law also includes the following measures:

- authorizes SCAQMD to adopt market incentives such as the emissions trading program known as RECLAIM as long as the emitters achieve reductions equivalent to command-and-control regulations;
- requires SCAQMD to establish a program to encourage voluntary participation in projects to increase the use of clean-burning fuels;
- requires SCAQMD to adopt and enforce rules to ensure no net emission increases from stationary sources.

Under the Federal Clean Air Act, the SCAQMD must develop and submit to CARB for review, followed by submittal to the EPA, an element of the State Implementation Plan (SIP) demonstrating how the region will achieve federal ambient air quality standards. In the case of ozone, the plan was required to be submitted by November 15, 1994 and for fine particulates, PM₁₀, the plan was required to be submitted by February 8, 1997. Plans for other pollutants were submitted in earlier years. In 1997, EPA adopted new ambient air quality standards for PM_{2.5} and replaced the 1-hour ozone standard with the new standard measured over an 8 hour period. Plans to attain these federal standards were submitted to EPA in November, 2007. The plan to attain the 24-hour PM_{2.5} standard by 2014 was submitted in early 2013. The Federal Clean Air Act mandates that sanctions be imposed on an area if a suitable plan is not adopted. These sanctions can include loss of key federal funds and more stringent requirements on new or expanding industries. Specific requirements for SCAQMD's AQMP include stringent requirements plus Lowest Achievable Emission Rate (LAER) and offsets for major new sources. Federal law also requires an operating permit program for major stationary sources, known as Title V, which must be supported by permit fees. Also, air toxics regulations adopted by EPA pursuant to Title III must be implemented by SCAQMD.

Air Quality Control

Developing solutions to the air quality problem involve highly technical processes and a variety of resources and efforts to meet the legal requirements of California and federal laws.

Monitoring: The first step is to determine the smog problem by measuring air pollution levels. SCAQMD operates 40 monitoring stations throughout its four-county jurisdiction. These range from full-service stations that measure all criteria pollutants, as well as some toxic pollutant levels, to those which measure specific pollutants in critical areas. These measurements provide the basis of our knowledge about the nature of the air pollution problem and for planning efforts to address the problem.

Pollution Sources: The SCAQMD, in cooperation with CARB and SCAG, estimates the sources of emissions causing the air pollution problem. Nature itself causes a ~~small~~ portion of the emissions and must be considered. In general, the SCAQMD estimates stationary and natural sources of emissions, SCAG develops the information necessary to estimate population and traffic, and CARB develops the information necessary to estimate mobile and area source emissions using the SCAG traffic data. This data is then consolidated in the AQMP for use in developing the necessary control strategies.

BOARD MEETING DATE: May 1, 2015

AGENDA NO. 31

PROPOSAL: Amend Rule 2202 Employee Commute Reduction Program Guidelines

SYNOPSIS: Amendments are proposed to the Rule 2202 Employee Commute Reduction Program Guidelines to streamline the annual reporting process and to incentivize better program performance. The proposal also provides administrative clarifications to address issues raised by stakeholders.

COMMITTEE: Mobile Source, March 20, 2015, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached resolution:

1. Certifying the Final Environmental Assessment for Proposed Amended Rule 2202 Employee Commute Reduction Program Guidelines; and
2. Amending Rule 2202 Employee Commute Reduction Program Guidelines.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:CG:EL

Background

Rule 2202 – On-Road Motor Vehicle Mitigation Options, adopted in December 1995, requires employers who employ 250 or more employees at a worksite to implement an emission reduction program to reduce emissions related to employee commutes from home to work. The rule provides members of the regulated community with a menu of flexible and cost effective emission reduction options from which they can choose to implement and meet the emission reduction targets for their worksites.

Employers may voluntarily elect to implement an Employee Commute Reduction Program (ECRP), otherwise known as a rideshare program. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving an average vehicle ridership (AVR) target for employer’s worksites. Employers who

voluntarily choose to implement an ECRP are required to submit an annual program plan that demonstrates good faith effort toward achieving their worksite AVR target. Employers implementing an ECRP must do so in conformance with the ECRP Guidelines as a means to comply with Rule 2202 (1)(3). The ECRP Guidelines provide the basis for the implementation of this rule option and have been in effect since the initial adoption of Rule 2202 in 1995.

In June 2014, staff amended Rule 2202 and the rule Implementation Guidelines to address issues with the credit market as it is used under Rule 2202. During the public meetings, members of the regulated community requested that the ECRP Guidelines be reviewed to consider methods to incentivize employers that demonstrate improvements in the worksite AVR and to streamline the ECRP submittal process. The Board directed staff, as part of its Rule 2202 amendment adoption resolution, to review the documents for potential amendment at a later time.

Proposal

Staff is proposing a set of amendments to the Guidelines to support employers' implementation of the ECRP compliance option. The proposed amendments are to clarify existing language, streamline the ECRP submittal process, and incentivize employer good faith efforts toward meeting the worksite AVR target.

Staff is proposing the inclusion of a High AVR and AVR Improvement Program as additional plan submittal types to incentivize improvements to worksite AVRs. The High AVR Program replaces the current High AVR No-Fault Inspection Program. Employers may submit a High AVR Program when their worksite has met or exceeded the AVR target. Employers qualifying for the High AVR Program will continue to receive a reduction (30% - 47%) in the current filing fees, submit a streamlined version of the annual plan, and will not be required to have an on-site pre-inspection. Alternatively, an AVR Improvement Program may be submitted if the worksite has improved their AVR more than 0.05 or has an improvement of 0.01 or better for three consecutive years. Employers qualifying for the AVR Improvement Program will receive a 20% reduction in filing fees and will submit a streamlined plan. These proposed programs are intended to incentivize improvements to worksite AVR by streamlining annual plan submittals at a discounted fee. Also, the reduced fee is proportional to the work involved since plans from employers that are achieving or making progress toward their goals require less review.

Staff is also proposing that the Mobile Source Diesel PM/NO_x Emission Minimization Program and Employer Clean Fleet Purchase/Lease Program be removed. CARB has adopted off-road regulations that seek to reduce emissions from existing off-road diesel vehicle fleets and emission certification standards for all new off-road diesel engines. These requirements will address a larger population of vehicles and are more stringent than the existing Rule 2202 ECRP requirements. The vehicle fleet emission standards of

LEV II and LEV III, as adopted by CARB, will increase the availability of cleaner vehicles as compared to what would be required under the ECRP Clean Fleet requirements. The Clean Fleet Program, adopted in 2004, was intended to accelerate the deployment of lower emission vehicle engines. The implementation of the LEV II and LEV III standards will achieve the original intent of this Rule 2202 ECRP program element. As a result, removing these program elements from the ECRP Guidelines will not result in emission reductions foregone; rather, it will reduce the administrative burden for the employers subject to these provisions in Rule 2202.

Key Issues

High AVR Program Submittal Fees

Comments received during the workshops requested that the fees for the proposed High AVR Program be lower than the proposed submittal fee amounts or waived altogether, because the inspection component of the program will no longer be required. Staff reviewed the tasks required to evaluate a High AVR Program submittal and found that the existing fee is necessary to provide cost recovery for this program. The current fee does not include the inspection cost; therefore, removing the on-site pre-inspection requirement will not alter the submittal fee. The proposed fees represent a fee reduction of 30% for worksites with less than 500 employees, or 47% for worksites with 500 or more employees which is a reduction level that will not adversely affect program resources. Based on ECRP submittals for 2014, staff's proposal represents an aggregated 40% (\$62,000) decrease in fees for the 115 qualifying worksites. The requested reductions of fees to be 20% lower than the current Emission Reduction Strategy (ERS) fees will result in a fee reduction from the current fees of 44% for worksites with less than 500 employees, or 58% for worksites with 500 or more employees.

The fee structure in Rule 2202 is designed for program cost recovery. It is not intended to be used as an incentive to promote one rule option over another. Staff does not believe that additional discounting will likely result in a significant increase in the number of employers participating in ECRP. Staff has reviewed the cost associated with the evaluation of the different types of ECRP submittals and has determined that the existing and proposed submittal fees will provide for recovery of the direct program costs.

Annual AVR Survey Submittal

During the public meetings, requests were made to change the AVR survey requirement from every year to every other year for worksites that have met or exceeded the AVR target, especially for employers with a large employee population. Commenters mentioned there were other areas in the country that have biennial transportation survey requirements. The annual reporting of worksite AVR is an important performance indicator that is used to demonstrate on going progress toward meeting AVR targets and the region's clean air goals. The calculated AVR is used to determine emission reductions achieved from the reduction of employee commutes from home to work. Rule 2202 is a performance-based program that seeks emission reductions, based on an annual

emission target, through the reduction of vehicle trips. Since the South Coast Air Basin is in extreme non-attainment for ozone, it is important that all reductions of ozone precursors (i.e., VOC and NOx) continue to be pursued and quantified. It would be difficult to account for any negative or positive changes in a worksite's AVR and the associated emission reductions during the non-surveyed interim years or to retroactively offset any reductions that were lost as a result of a negative change in the worksite AVR. It should be noted that, under Rule 2202, employers can achieve the annual emission target by voluntarily choosing between the different rule compliance options of ERS, Air Quality Investment Program or ECRP. Staff recognizes that surveying a large employee population can be difficult. Since the program's initial adoption, the ECRP Guidelines have included options of allowing the employers to use a random sampling method or to propose an alternative survey method. Staff will continue to work with employers to evaluate alternative survey methods that can be used for large employee populations.

Public Process

Staff has worked with Rule 2202 stakeholders and other interested parties. Stakeholder working group meetings were held on August 21, 2014 and February 19, 2015; and a Public Workshop was held on March 4, 2015.

California Environmental Quality Act (CEQA)

Pursuant to California Environmental Quality Act (CEQA) Guidelines § 15252 and SCAQMD Rule 110, the SCAQMD has prepared a Draft Environmental Assessment (EA) for the proposed amendments to the Rule 2202 ECRP Guidelines. The Draft EA was released for a 30-day public review and comment period from March 24, 2015 to April 22, 2015. Responses to comments received in the Draft EA are included in the Final EA. The environmental analysis in the Final EA concluded that the proposed project would not generate any significant adverse environmental impacts.

Socioeconomic Analysis

Proposed amendments to Rule 2202 Employee Commute Reduction Program Guidelines will affect 494 worksites that have implemented an ECRP within the SCAQMD jurisdiction. These worksites belong to most major sectors in the local economy. The proposed amendments may result in a reduction of filing fees for qualifying program submittals associated with the High AVR or AVR Improvement Program options. Removal of the Clean Fleet and Diesel Minimization requirements will reduce the paperwork needed resulting in cost savings. It should be noted that employers will continue to be able to choose from different compliance options. In conclusion, the proposed amendments are not expected to cause additional costs or other adverse socioeconomic impacts.

AQMP and Legal Matters

The California Health and Safety Code requires that the SCAQMD adopt an AQMP to meet state and federal ambient air standards in the Basin. In addition, the California

Health and Safety Code requires that the SCAQMD adopt rules and regulations that carry out the objective of the SCAQMD. The proposed Guideline amendments are consistent with the intent and objectives of the AQMP.

Implementation and Resource Impact

Existing SCAQMD resources will be sufficient to implement the proposed amendments with minimal impact on the budget.

Attachments

- A. Summary of Proposal
- B. Summary of Key Issues and Responses
- C. Rule Development Process
- D. Key Contacts List
- E. Resolution
- F. Proposed Amended Rule 2202 Employee Commute Reduction Program
Guidelines Language
- G. Staff Report
- H. Final Environmental Assessment

ATTACHMENT A
SUMMARY OF PROPOSAL

Amend Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines

- Allow High AVR and AVR Improvement Program submittal of streamlined plans with discounted filing fees
- Remove Employer Clean Fleet Purchase/Lease Program
- Remove Mobile Source Diesel PM/NO_x Emission Minimization Program
- Administrative amendments to the Guidelines and Good Faith Effort Determination Elements to provide additional clarity and guidance to the regulated community:
 - Add Failure to Notify flowchart to further explain the consequences of not submitting an ECRP
 - Program Administration – clarification of when an approved ECRP is to begin implementation and the addition of examples of the type of records that should be maintained for recordkeeping requirements
 - Recordkeeping – record retention requirement for AVR Improvement Programs when the retention time in some instances may be longer than three years
 - AVR Adjustments – inclusion of the types of vehicles that can be counted as zero emission vehicles and how they can be used when calculating AVR
 - Extensions – add examples of reasons that an extension for a program submittal may be granted
 - Relocation – add clarification regarding rule applicability when an employer relocates their employees over an extended period of time
 - Declared Bankruptcy – clarify administrative actions to be taken when a bankruptcy waiver expires

ATTACHMENT B
SUMMARY OF KEY ISSUES AND RESPONSES

Proposed Amended Rule 2202
Employee Commute Reduction Program (ECRP) Guidelines

- The fees for the proposed High AVR Program submittal be 20% lower than the ERS fee or be completely waived, has been suggested. This could further incentivize AVR improvements and could make the ECRP program more attractive.

Response:

The fee structure in Rule 2202 is designed for program cost recovery. It is not intended to be used as an incentive to promote one rule option over another. Staff does not believe that additional discounting will likely result in a significant increase in the number of employers participating in ECRP. Staff has reviewed the cost associated with the evaluation of the different types of ECRP submittals and has determined that the existing and proposed discounted submittal fees will provide for cost recovery of the direct program costs. The existing discounted fee does not include the inspection cost therefore, removing the pre-inspection requirement will not alter the fee. The proposal will reduce an administrative burden for employers and streamline plan submittals for qualifying employers. Staff will evaluate the High AVR Program and the AVR Improvement Program performance over time and determine if a fee adjustment is warranted.

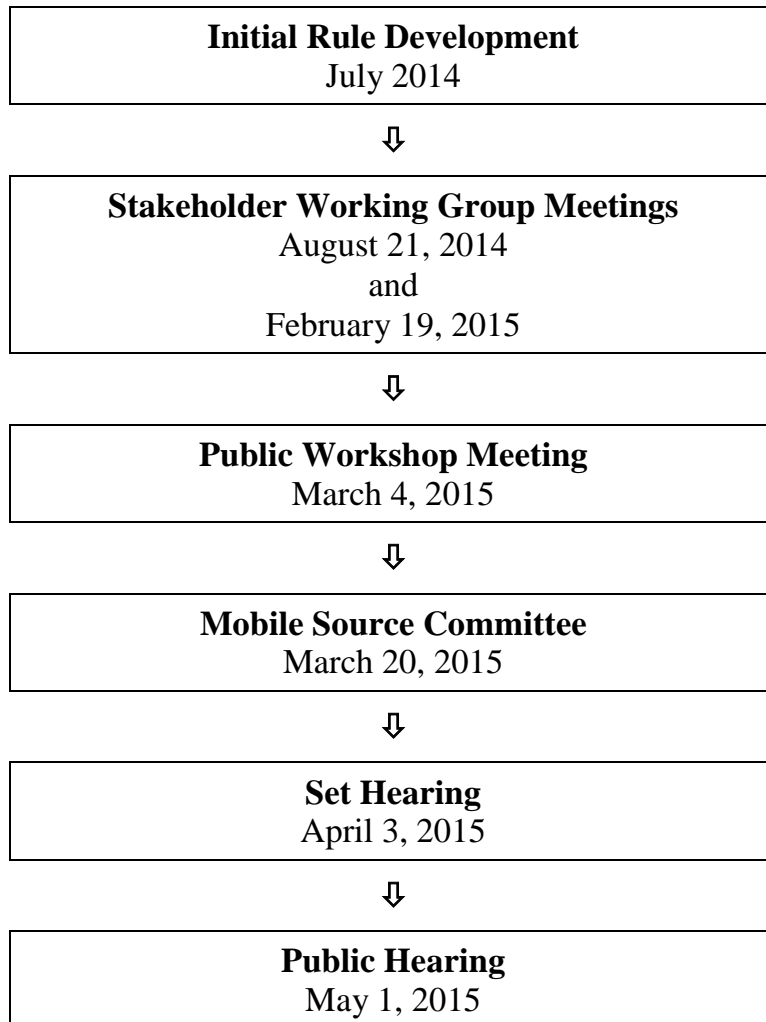
- Request that AVR surveys not be required every year for worksites that have met or exceeded the AVR target especially for employers with a large employee population. Surveying employees can be resource intensive. There are other programs that allow biennial AVR surveys.

Response:

The annual reporting of worksite AVR is an important performance indicator that is used to demonstrate on going progress toward meeting AVR targets and the region's clean air goals. The calculated AVR is used to determine emission reductions achieved from the reduction of employee commutes from home to work. Rule 2202 is a performance based program that seeks emission reductions, based on an annual emission target, through the reduction of vehicle trips. Since the South Coast Air Basin is in extreme non-attainment for ozone it is important that all reductions of ozone precursors (i.e., VOC and NOx) continue to be pursued and quantified. It would be difficult to account for any negative or positive changes in a worksite's AVR and the associated emission reductions during the non-surveyed interim years or to retroactively offset any reductions that were lost as a result of a negative change in the worksite AVR. Staff recognizes that surveying a large employee population can be difficult. Since the program's initial adoption, the ECRP Guidelines have included options of allowing the employers to use a random sampling method or to propose an alternative survey method. Staff will continue to work with employers to evaluate alternative survey methods that can be used for large employee populations.

**ATTACHMENT C
RULE DEVELOPMENT PROCESS**

**Proposed Amended Rule 2202
Employee Commute Reduction Program (ECRP) Guidelines**



**ATTACHMENT D
KEY CONTACTS LIST**

**Proposed Amended Rule 2202
Employee Commute Reduction Program (ECRP) Guidelines**

- Rule 2202 regulated employers
- Employee Transportation Coordinators (ETC)
- Transportation Management Organization or Associations (TMO/TMA)
- Rule 2202 program consultants
- Emission credit brokers
- Other interested parties

ATTACHEMENT E

RESOLUTION NO. 15-_____

A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board adopting Proposed Amended Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines.

A Resolution of the SCAQMD Governing Board certifying the Final Environmental Assessment for Proposed Amended Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines.

WHEREAS, the SCAQMD Governing Board has determined with certainty that Proposed Amended Rule 2202 ECRP Guidelines, is a “project” pursuant to the terms of the California Environmental Quality Act (CEQA); and

WHEREAS, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

WHEREAS, SCAQMD staff has prepared a Draft Environmental Assessment (EA) pursuant to its certified regulatory program and pursuant to CEQA Guidelines §15252, setting forth the potential environmental consequences of Proposed Amended Rule 2202 ECRP Guidelines; and

WHEREAS, the Draft EA was circulated for 30-day public review and comment period from March 24, 2015 to April 22, 2015; and

WHEREAS, any responses to comments received on the Draft EA are included in the Final EA, and the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, it is necessary that the adequacy of the Final EA, including responses to comments, be determined by the SCAQMD Governing Board prior to its certification; and

WHEREAS, the SCAQMD is not required to prepare Findings, a Statement of Overriding Considerations, or a Mitigation Monitoring Plan because the proposed project is not expected to generate significant adverse environmental impacts; and

WHEREAS, the SCAQMD Governing Board voting on Proposed Amended Rule 2202 ECRP Guidelines has reviewed and considered the Final EA, including responses to any comments received prior to its certification; and

WHEREAS, the SCAQMD Governing Board finds and determines, taking into consideration the factors in § (d)(4)(D) of the Governing Board Procedures, that the modifications which have been made to Proposed Amended Rule 2202 ECRP Guidelines, since notice of public hearing was published do not significantly change the meaning of the proposed project within the meaning of Health and Safety Code § 40726 and would not constitute significant new information requiring recirculation of the Draft CEQA document pursuant to CEQA Guidelines § 15088.5; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines do not significantly affect air quality or emission limitations and as such, no socioeconomic analysis is required under Health and Safety Code Section 40728.5; and

WHEREAS, the SCAQMD Governing Board has determined that Proposed Amended Rule 2202 ECRP Guidelines will not result in increased costs to industry as described in the Socioeconomic Impact Assessment; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines, do not impose a new emission limit or standard more stringent, or impose new or more stringent monitoring, reporting, or recordkeeping requirements and therefore a comparative analysis pursuant to Health and Safety Code Section 40727.2 is not required; and

WHEREAS, the SCAQMD Governing Board obtains its authority to adopt these Proposed Amended Rule 2202 ECRP Guidelines pursuant to sections 40000, 40001 and 40440, of the California Health and Safety Code; and

WHEREAS, the SCAQMD Governing Board has determined that a need exists to amend the Rule 2202 ECRP Guidelines in order to be consistent with current State and SCAQMD emission reductions estimates and to increase the effectiveness of the program; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines, as proposed to be adopted, are written or displayed so that their meaning can be easily understood by the persons directly affected by them; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines, as proposed to be adopted, are in

harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, or state or federal regulations; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines, as proposed to be adopted, do not impose the same requirements as any existing state or federal regulation and the proposed amendments are necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

WHEREAS, the SCAQMD Governing Board has determined that Proposed Amended Rule 2202 ECRP Guidelines, as proposed to be adopted, reference the following statutes which the SCAQMD hereby implements, interprets or makes specific: Health and Safety Code Section 40001, 40716, 40717, and Federal Clean Air Act Section 182(d)(1)(B); and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725; and

WHEREAS, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

WHEREAS, the SCAQMD Governing Board specifies the manager of Proposed Amended Rule 2202 ECRP Guidelines, as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the Proposed Amended Rule 2202 ECRP Guidelines is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California 91765; and

WHEREAS, the SCAQMD Governing Board has determined that the Proposed Amended Rule 2202 ECRP Guidelines, should be adopted for the reasons contained in the Staff Report, and

NOW, THEREFORE, BE IT RESOLVED, that the SCAQMD Governing Board does hereby certify that the Final EA for Proposed Amended Rule 2202 ECRP Guidelines was completed in compliance with CEQA and Rule 110 provisions; and that the Final EA was presented to the Governing Board, whose members reviewed, considered and approved the information therein prior to acting on Proposed Amended Rule 2202 ECRP Guidelines; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of implementing Proposed Amended Rule 2202 ECRP Guidelines, a Statement of Findings, a Statement of Overriding Considerations, and a Mitigation Monitoring Plan are not required; and

BE IT FURTHER RESOLVED, that the South Coast Air Quality Management District Board requests that Proposed Amended Rule 2202 ECRP Guidelines be submitted into the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the Executive Officer is hereby directed to forward a copy of this Resolution and Proposed Amended Rule 2202 ECRP Guidelines to the California Air Resources Board for approval and subsequent submittal to the U.S. Environmental Protection Agency for inclusion into the State Implementation Plan; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Proposed Amended Rule 2202 ECRP Guidelines as set forth in the attached and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT F

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Proposed Amendments to

RULE 2202 – ON-ROAD MOTOR VEHICLE MITIGATION OPTIONS

EMPLOYEE COMMUTE REDUCTION PROGRAM GUIDELINES

~~October 7, 2011~~ May 1, 2015

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**SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT
GOVERNING BOARD**

Chairman: WILLIAM A. BURKE, Ed.D.
Speaker of the Assembly Appointee

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Cities of Orange County

JANICE RUTHERFORD
Supervisor, Second District
County of San Bernardino

EXECUTIVE OFFICER: BARRY R. WALLERSTEIN, D.Env.

PREFACE

Implementation of an Employee Commute Reduction Program (ECRP) is strictly optional under Rule 2202. This program is designed to meet ambient air quality standards mandated by the Federal Clean Air Act. As an indirect mobile source emission control strategy it is intended to reduce vehicle miles traveled and increase the average vehicle ridership (AVR) of work related trips at subject worksites.

Rule 2202 and the guidelines for the ECRP are consistent with the Health and Safety Code §40717 which establishes compliance requirements for California transportation performance standards.

This document has been prepared to assist employers in understanding the development and implementation requirements of the ECRP at their worksites. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving and maintaining the employers' designated AVR targets.

SCAQMD staff is available to answer questions and to provide assistance to employers who are developing and implementing programs. The entire guidance document should be read in order to fully understand the program requirements. Direct any questions concerning these guidelines to the Transportation Programs Hotline at (909) 396-3271.

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I. PROGRAM OVERVIEW

A. INTRODUCTION

Rule 2202 ~~has been~~ is designed to reduce mobile source emissions from employee commutes. The Rule provides employers with a menu of emission reduction strategies that ~~employers can be implemented~~ to meet ~~an~~ the designated emission reduction target (ERT) for their worksite. As an alternative to meeting an ERT, Rule 2202 also allows employers the option to implement an Employee Commute Reduction Program (ECRP) that meets the rule exemption requirements. The implementation of an ECRP is expected to lead to achievement and maintenance of the employer's designated average vehicle ridership (AVR) target, determined by the worksite's AVR Performance Zone pursuant to Rule 2202 (1)(3), ~~by reducing the number of~~ through the reduction of work related vehicle trips.

B. APPLICABILITY

This program can be implemented by any employer that employs 250 or more employees at a worksite, on a full or part-time basis, calculated as a monthly average over the prior six consecutive months. Each monthly employee population for the prior consecutive six months is added and then divided by six to determine whether the employer's average employee population figure is 250 or more.

1. Program Notification

Employers with 250 or more employees upon becoming subject to Rule 2202 shall notify the SCAQMD in writing within 30 days and include the following information:

- a. Employer's name;
- b. Worksite and mailing address of the business;
- c. Name, title, phone number, and email address of the highest ranking official at the worksite;
- d. Name, title, phone number, and email address for a contact person at the worksite; and
- e. Number of employees at the worksite.

Once the employer has notified the SCAQMD, within 90 calendar days ~~from the date of notifying the SCAQMD that notification~~, the employer must submit an initial ~~Annual Employee Commute Reduction Program ECRP~~, if ~~such a~~ that compliance option is chosen.

Any employer that is subject to Rule 2202 ~~and~~ but fails to notify the SCAQMD within 30 calendar days of becoming subject to the rule will be subject to the Failure to Notify Surcharge as set forth in Rule 308 – On-Road Motor Vehicle Mitigation Options Fees and may be subject to civil or criminal enforcement action ~~for failure to notify AQMD~~ (see Figure 1).

C. TYPES OF EMPLOYEE COMMUTE REDUCTION PROGRAMS

On the program due date, or within 90 calendar days of becoming subject to the Rule, an employer choosing to comply through this option must submit one of the following ECRP ~~Annual Program~~ programs:

- a. A single-site employer must submit a single site ECRP.
- b. A multi-site employer may submit either a Multi-Site ECRP, separate single site programs, or a combination of multi-site and single site programs.

D. PROGRAM SUBMITTAL SCHEDULE

Employers must submit an ~~Annual Program on an~~ ECRP by the established ~~submittal due~~ date. The ~~Annual Program~~ ECRP reports the AVR status for the current year and, when not achieving the target AVR, an implementation plan that will achieve or make progress toward the AVR target performance requirement for the worksite. Worksites included in a Multi-Site program submittal must all have the same annual due date and be located within the same AVR Performance Zone. Annual due dates shall remain permanent unless modified by the Executive Officer or designee or a written request to change the due date is submitted by the employer and approved in writing by the SCAQMD.

E. PROGRAM ELEMENTS TYPES

An ECRP that reports the results of an AVR data collection method and calculation, and/or a plan that the employer will implement to meet the AVR target, must be submitted to the SCAQMD by the program due date. ECRPs must be submitted in the format approved by SCAQMD and include the following elements:

1. Single Site Program

- a. A management commitment endorsed by the highest-ranking official at the worksite or the person responsible for allocating the resources necessary to implement the program. This endorsement shall include a commitment to fully implement the program and that all data in the program is accurate to the best of the employer's knowledge. The endorsement, commitment, and signature line can be found in the ~~Annual Program~~ ECRP compliance forms;
- b. The name of the Employee Transportation Coordinator (ETC), On-site Coordinator, and/or Consultant ETC;
- c. The name of the worksite contact person, if different from the ETC;
- d. The number of employees that begin work during a typical work week within the peak commute window;
- e. ~~The AVR calculation and AVR data collection method;~~
- d.f. Specific strategies as defined in section II.F. Good Faith Effort Determination Elements, the employer will provide to employees implement;
- e. ~~The number of employees that begin work during a typical work week within the peak commute window; and,~~
- f. ~~A marketing program which ensures all employees are regularly informed of the ECRP details.~~

- g. Emission credit offset calculations and the emission reduction credit amounts or the Air Quality Investment Program (AQIP) fee amount required to meet the worksite AVR target if the option in Rule 2202 (l)(3)(A) is selected; and,
- h. Any applicable supporting documentation.

2. Multi-Site Program

In addition to submitting the elements described above for each worksite, employers submitting Multi-Site ECRPs shall submit a matrix that identifies ~~those specific~~ strategies offered at each individual worksites. Worksites can only be added to or removed from a multi-site program during the annual submittal or a program amendment submittal. New worksites may be added to a multi-site program provided the multi-site submittal is within the 90 calendar days specified for new worksites in section I.B. Applicability; otherwise new worksites shall remain as a single site program until the appropriate time to become part of the multi-site program.

Employers submitting Multi-Site ECRPs ~~may should~~ consider the following:

- a. The option of aggregating AVR for worksite submittals located within the same AVR Performance Zone, as described in section II.D. Aggregating AVR for Multi-site Employers;
- b. In lieu of attaining the designated AVR at each employer worksite, ~~total surplus vehicle reductions (TSVR) from sites in the multi-site plan that exceed their designated AVR may be credited towards an employer's worksite that has a total vehicle reduction shortfall (TVRS) not met the target AVR for those worksites located within the same AVR Performance Zone. (Refer to section II.D. Aggregating AVR for Multi-Site Employers);~~
- c. Implementation of a Centralized Rideshare Service Center (CRSC) in lieu of having a trained ETC at each worksite in the multi-site plan (refer to section III.C. Centralized Rideshare Service Center);
- d. Designation of On-Site Coordinators for each worksite; and/or,
- e. The option of voluntarily including worksites with fewer than 250 worksite employees in the aggregated AVR and/or employees of other businesses located at the worksite not subject to the Rule ~~as described in section II.D. Aggregating AVR for Multi-site Employers.~~

~~F. ANNUAL PROGRAM~~

~~The Annual Program must be submitted in the appropriate format, approved by AQMD, and include the following:~~

- ~~a. AVR data collection method;~~
- ~~b. AVR calculation;~~
- ~~c. Emission credit offset calculations and the emission reduction credit amounts that are required to meet the worksite performance requirements if the option in subparagraph (m)(3)(A) of the rule is selected;~~
- ~~d. Name of the certified ETC responsible for developing and implementing the worksite ECRP;~~
- ~~e. Strategies offered to employees;~~

- f. ~~Signed endorsement by the highest ranking official or the person responsible for allocating the resources necessary to implement the program declaring that all strategies listed in the approved program were offered to employees; and~~
- g. ~~Any applicable supporting documentation.~~

~~If the Annual Program submittal indicates that the designated AVR was not achieved, AQMD staff will contact the employer to recommend how to improve the program. Alternatively, the employer may refer to the section V. *Employee Commute Reduction Strategies* for other strategies that could be included in the program.~~

~~G. HIGH AVR NO-FAULT INSPECTION~~

~~1. High AVR No-Fault Inspection Requirements~~

3. High AVR Program

~~Any worksite that requests and passes a High AVR No-Fault Inspection submitting a High AVR Program, one that meets or exceeds the target AVR, is eligible for a the reduced annual filing fees established in Rule 308 (c)(1)(A) and (c)(1)(B). To qualify, the following conditions must be met:~~

- a. ~~The annual employee survey must be conducted and the resulting AVR calculation must meet or exceed the designated target AVR;~~
- b. ~~It cannot be a first-time submittal resulting from a change of ownership as described in section IV.C. *Change of Ownership* unless the new owners submit a commitment letter which states they will continue to implement the previous owners program ECRP;~~
- c. ~~The designated target AVR must be met only through the implementation of an ECRP and cannot be met using emission credits or AQIP fees; and,~~
- d. ~~The ECRP must be marketed and implemented as described in the Annual Program submittal; and,~~
- e. ~~The High AVR No-Fault Inspection must be scheduled no less than two months prior to the submittal due date.~~
- d. ~~The employer submits an ECRP in the format approved by SCAQMD and includes the elements describe in section I.E. *Program Types and Features*, excluding the Good Faith Effort Determination Elements.~~

~~2. Compliance Documents Submittal~~

~~Following successful completion of a High AVR No-Fault Inspection, the employer is required to submit the following documents in lieu of an Annual Program submittal described in section I.F. *Annual Program*:~~

- a. ~~A copy of the compliance commendation letter which will be given to the employer upon successful completion of the inspection; and~~
- b. ~~The worksite's AVR calculation worksheets as provided in the Annual Program forms.~~

4. AVR Improvement Program

Any worksite submitting an ECRP that has an improvement of 0.05 or greater in the worksite AVR compared to the previous compliance year submittal, or demonstrates a minimum AVR increase of 0.01 per year when compared to the previous two compliance years is eligible for a 20% reduction of the annual filing fees established in Rule 308 (c)(2) and a reduced program submittal as described in paragraph f. below. To qualify, the following conditions must be met:

- a. The annual employee survey must be conducted and the resulting AVR calculation must have an AVR increase of 0.05 or greater when compared to the previous compliance year submittal or has an AVR increase of 0.01 per year when compared to the previous two compliance years;
- b. The worksite must have an approved ECRP for the compliance years that are used for the AVR comparison as described above;
- c. The program cannot be a first-time submittal resulting from a change of ownership as described in section IV.C. *Change of Ownership* unless the new owners submit a commitment letter which states they will continue to implement the previous owners ECRP;
- d. For multi-site programs, the aggregate AVR may be used to qualify for this reduction provided that a multi-site program with an aggregated AVR that is improved in comparison to the previous compliance year or previous two years;
- e. The AVR improvement must be only through the implementation of an ECRP and cannot be met by using emission credits or AQIP fees;
- f. The employer submits an ECRP in the format approved by SCAQMD and includes the elements describe in section I.E. Program Types and Features, excluding the Good Faith Effort Determination Elements; and,
- g. The employer shall continue to implement the approved program strategies until the next program submittal that requires inclusion of strategies or submittal of a program amendment.

Examples of Qualifying and Non-Qualifying Submittals

If Employer A is submitting its ECRP in 2015 and has an AVR improvement of 0.01 every year when compared to the previous two years then it could submit an AVR Improvement Program. Employer B has an improvement of .01 when compared to the previous year, but there was a decline in AVR when compared to the submittal two years ago, it would not be eligible. If employer C has an increase of 0.05 over the previous year submittal it would be eligible. When an employer has a different program submittal option, they cannot use any prior year for the AVR Improvement, as shown by Employer D. The AVR Improvement Program examples are summarized in Table 1 below.

Table 1. AVR Improvement Program Submittal Examples

<u>Submittal Year AVR</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>AVR Improvement</u>
<u>Employer A</u>	<u>1.30</u>	<u>1.31</u>	<u>1.32</u>	<u>1.33</u>	<u>Yes</u>
<u>Employer B</u>	<u>1.30</u>	<u>1.31</u>	<u>1.30</u>	<u>1.31</u>	<u>No</u>

<u>Employer C</u>	<u>1.30</u>	<u>1.30</u>	<u>1.30</u>	<u>1.35</u>	<u>Yes</u>
<u>Employer D</u>	<u>1.29</u>	<u>1.30</u>	<u>AQIP submittal</u>	<u>1.35</u>	<u>No</u>

HF. PROGRAM ADMINISTRATION

1. Program Submittal and Compliance

All employers who choose to implement an ECRP shall submit an Annual Program plan that will lead to the achievement and maintenance of the annual AVR target performance requirement. Employers unable to ~~demonstrate progress towards meeting~~ increase their AVR or meet the annual AVR target performance requirement must submit one of the options listed in section *II.E. Annual AVR Performance Requirement*.

2. Program Implementation

Employers shall implement their ECRP within 30 days of receipt of their written program approval. An alternative program implementation date may be used if included in the Program submittal that has been approved or if otherwise stated in the written program approval. Any ECRP previously approved by the SCAQMD will remain in effect until:

- a. A new program is approved;
- b. An approved alternative is used to comply with Rule 2202;
- c. The employer receives notification from SCAQMD that they are no longer subject to the Rule; or
- d. Rule 2202 is rescinded.

IG. RECORD RETENTION REQUIREMENTS

Employers must maintain records using the following criteria:

- a. The employer must keep detailed records of the documents which verify the AVR calculation ~~for the last~~ a minimum of three compliance years.
- b. Records which verify that all strategies in the ECRP have been marketed and offered shall be kept at the worksite for at least the last a minimum of three compliance years. Examples of records include but are not limited to: AVR calculation data; employee surveys; marketing materials; meeting agendas; proof of incentive purchases and distributions; and/or, plug-in hybrid electric vehicle (PHEV) type and home to work trip distances for the zero emission AVR credit.
- ~~b.c.~~ Employers who have a qualifying AVR Improvement Program shall keep all records at the worksite, records as specified in paragraph b above, of the most recently approved ECRP which describes the good faith effort determination elements. This may require maintaining records longer than the minimum three compliance years as specified in paragraphs a and b above.
- d. Employers who implement their programs using a Centralized Rideshare Service Center (CRSC) as described in section III.C., ~~must shall~~ maintain records and documents at the CRSC, unless, upon written approval by the Executive Officer or designee, other record retention arrangements have been made.

e.e. Records may be maintained electronically provided that the materials can be viewed by commonly available software.

JH. COMPLIANCE

~~Failure to comply with any provisions of this Rule or this ECRP Guideline document, including but not limited to, failure to maintain records, falsification of records, failure to submit an Annual Program, failure to submit proper fees in accordance with the provisions of Rule 308 - On Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates, and/or failure to submit a management commitment verifying implementation of the program as approved by the AQMD is a violation of Rule 2202 and is subject to the penalties outlined in the Health and Safety Code Section §42400 et seq. Examples of violations include, but are not limited to:~~

- a. Failure to maintain records as described in section G. Record Retention Requirements;
- b. Falsification of records;
- c. Failure to submit an annual program;
- d. Failure to submit proper fees in accordance with the provisions of Rule 308 - On-Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates;
- e. Failure to submit a management commitment verifying implementation of the program as approved by the SCAQMD, and/or;
- f. Failure to implement components of an approved annual program.

- ~~a. The AQMD will not impose any requirements that are not a part of Rule 2202, Rule 308, Rule 311, or Rule 313.~~
- ~~b. The AQMD may only request information to the extent that it is reasonably necessary to determine compliance with these rules.~~

The SCAQMD will not impose any ECRP requirements that are not a part of Rule 2202, the ECRP Guidelines, Rule 308, Rule 311, or Rule 313, and will only request information to determine compliance with these rules.

If a final determination that an element of an approved ECRP violates any provision of law is issued by any agency or court with jurisdiction to make such determination, then the employer shall, within 45 calendar days, submit a proposed program revision to the SCAQMD which shall be designed to achieve an AVR equivalent to the previously approved program.

II. PROGRAM IMPLEMENTATION

A. PROGRAM REVIEW

The SCAQMD staff will review ECRPs using the following criteria:

- a. ECRPs will be approved provided the program complies with all requirements of Rule 2202, these ECRP Guidelines, Rule 308 - On-Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates;

- b. Employer continues to demonstrate a good faith effort towards achieving the target AVR or has made appropriate changes/additions to the strategies when AVRs have declined or remained consistently low. Program submittals which fail to show an overall improvement in AVR from the previously submitted ~~Annual Program ECRP~~ and do not provide revisions or additions to the strategy section are not considered to be a good faith effort on the part of the employer and may not be approved as submitted;
- c. Within 90 calendar days of receipt of the program submittal, the SCAQMD will in writing, approve, preliminarily disapprove the program, or request up to 30 additional days to review the program, indicating to the employer the reasons for requiring additional review time;
- d. If a program is not approved or disapproved within 90 calendar days, or if the SCAQMD has not requested additional review time, the program shall be deemed approved;
- e. ~~Prior to disapproving~~ After the employer submits an program ECRP, the SCAQMD will contact the employer to provide an opportunity to discuss any program inadequacies; and,
- f. If these inadequacies are not addressed, the SCAQMD will preliminarily disapprove the ECRP and provide in writing the reasons for the preliminary disapproval;
 - 1. Any ECRP preliminarily disapproval by the SCAQMD must be revised by the employer and resubmitted within 30 calendar days of receipt of the notice of the preliminary disapproval;
 - 2. The SCAQMD has 90 calendar days to approve or issue a final disapproval of the resubmitted ECRP;
 - 3. If a notice of final disapproval is given, the employer will be in violation of Rule 2202 until a revised ECRP is submitted and approved by the SCAQMD or a successful appeal is taken, in accordance with Rule 216 – Appeals, to the Hearing Board.
- ~~f. If a program is disapproved, the reasons for disapproval will be given in writing to the employer. Any program disapproved by the AQMD must be revised by the employer and resubmitted to the AQMD within 30 calendar days of receipt of the notice of disapproval. The AQMD has 90 calendar days to review the resubmitted program. If a second disapproval notice is given, the employer is in violation of Rule 2202 until a revised program is submitted and approved by the AQMD; and~~
- ~~g. An ECRP will be disapproved if the program demonstrates a disproportionate impact on minorities, women, low-income or disabled employees.~~

B. CALCULATING AVR

1. Employee Categories

Employees that do not begin work at least one day during the 6:00 a.m. - 10:00 a.m. peak commute window are not included in the peak AVR calculation. Employees that are classified in the “Other Days Off” category are included in the AVR calculation if they begin work in the window at least one day during the survey week. The net effect of “Other Days Off” on the AVR calculation will be neutral. Employees in this category include, but are not limited to, the following:

- employees on vacation, sick, or furlough;
- employees on per-diem or on-call that do not meet the definition of field personnel;

- employees on jury duty, military duty;
- employees who begin work outside the window provided they begin in the window at least one other day during the week;
- employees not scheduled to work that day;
- employees that are home dispatched;
- employees on maternity leave;
- employees on bereavement leave; and/or
- employees on medical /disability leave.

The following employee categories, as defined in the Glossary, are not considered for rule applicability or in calculating AVR:

- temporary employees;
- seasonal employees;
- volunteers;
- field personnel;
- field construction workers; and/or
- independent contractors.

2. Police, Sheriff, and Federal Field Agents

Police, Sheriff, and Federal Field Agents, as defined in the Glossary, are included for rule applicability but are not required to be included in the 6:00 a.m. - 10:00 a.m. peak window surveyed or included in the AVR calculation. It is the discretion of the employer whether to include them in the window count. Surveying only part of this group is not acceptable. Those worksites electing to exclude such employees from the AVR survey and calculation must provide the basic ridesharing support strategies including, but not limited to, ride matching and transit information for all employees as well as preferential parking and guaranteed return trips for employees who are ridesharing. Employees who perform non-field work or non-investigative functions are required to be included in the peak window survey ~~or~~ and included in the AVR calculation. Examples of Federal Field Agents include, but are not limited to, field employees of the Federal Bureau of Investigation (FBI), Customs and Border Protection or US Coast Guard.

3. AVR Adjustments

- a. Carpools are counted as 2-6 people traveling together for ~~the majority (51%)~~ of the total trip distance. The credit is given by dividing the total weekly number of occupants in the vehicle by the maximum occupancy in the vehicle.
- b. Vanpools are counted as 7-15 people traveling together for ~~the majority (51%)~~ of the total trip distance. The credit is given by dividing the total weekly number of occupants in the vehicle by the maximum occupancy in the vehicle.
- c. Employees walking, bicycling, telecommuting, using public transit, using a zero emissions vehicle (ZEV) or other vehicles as approved by the Executive Officer or designee, or on their day off under a compressed work week, should be counted as employees arriving at the worksite with no vehicle.

- i. Carpool occupants of a ZEV may be counted as arriving at the worksite with no vehicle by marking the zero emission option on the AVR survey.
 - ii. Employees arriving to work in a plug-in hybrid electric vehicle (PHEV) can be considered to be using a ZEV provided that the entire home-to-work trip is made exclusively under electric power without use of the gasoline engine or cogeneration system.
 - iii. None of the employee ZEVs can be included in the AVR calculation if the employer has implemented a ZEV charging program that will result in the generation of ~~emission reduction credits~~ Rule 2202 emission credits pursuant to Rule 2202 (f)(6) or other approved SCAQMD emission credit programs.
- d. Compressed Work Week (CWW) credit will only be granted when all days worked and all CWW days off fall within the established AVR survey period.

Employers may develop alternatives to the recognized compressed work week schedules of 3/36, 4/40, and 9/80 upon written approval by the SCAQMD. The proposed alternative must ensure that the resulting trip reductions are real, surplus, quantifiable, and enforceable.

The types of CWW day(s) off must be clearly indicated on the AVR survey as follows:

- i. 3/36 - 3 days work, 12 hours per day, 2 days off during the survey week;
- ii. 4/40 - 4 days work, 10 hours per day, 1 day off during the survey week; or
- iii. 9/80 - 9 days work, 80 hours per two weeks, 1 day off in a 2 week period during the survey.

If a person on a 3/36 scheduled work week works a 4th day during the established work week, an employer may take credit for one (1) CWW day off.

- e. Non-commuting AVR credit is allowed for employees who remain at the worksite (if in the SCAQMD's jurisdiction), or entirely out of the SCAQMD's jurisdiction, for at least a full 24-hour period, to complete work assignments, and who generate no vehicle trips during the AVR window associated with arriving at the worksite. Non-commuting AVR credit is calculated as arriving at the worksite with no vehicle. Examples of employees who may be considered to be in this category are firemen, airline pilots, or flight attendants.
- f. AVR credit for all employees leaving the worksite, during the window, may be calculated and averaged with employees arriving at the worksite during the window to obtain an aggregate AVR. However, if Off-Peak Credits are used in the AVR calculation this credit cannot be used.
- g. Off-Peak Credits - Employers may receive additional credits from employee trip reductions that occur outside of the peak window. An AVR survey or an alternative approved data collection method is required to obtain this data. This AVR survey cannot be older than 6 months at the time of program submittal. This credit may be calculated as follows:

$$AVR = \frac{E}{V - [CCVR \div 2.3]}$$

Where:

E = Total number of weekly window employees in the peak window.

V = Total number of weekly window vehicle trips in the peak window.

CCVR = Creditable commute vehicle reductions that occur outside of the peak window.

2.3 = Discount factor.

- h. Non-Regulated Worksite Credits - Employers may voluntarily include worksites with less than 250 employees as described in section *II.D. Aggregating AVR for Multi-site Employers* and/or employees of other businesses located at the worksite not subject to the Rule.
- i. Reduced Staffing - Employers may receive additional trip reduction credits, that have been discounted, from reduced staffing that occurs during events that are longer than five consecutive work days, such as school recesses/breaks, inventory, or temporary facility closures, as approved by SCAQMD. A separate AVR survey ~~may be~~ is required to obtain this data. This AVR survey cannot be older than 12 months old at the time of program submittal. This credit is not allowed for staff reductions resulting from actions such as layoffs, relocations, transfers, facility closures or temporary closures that are part of regularly schedule facility vacations. This credit may be calculated as follows:

$$AVR = \frac{E \times T}{[V_n \times T_n] + [V_r \times T_r \times 1.15]}$$

Where:

E = Total number of weekly window employees during the regular operating schedule.

T = Total number of annual operating workdays for the worksite, which is the sum of T_n and T_r. For example, the default value is 260 days for employers with a 5 day work schedule, and a default value of 365 days for a 7 day work schedule.

V_n = Total number of weekly window vehicle trips during the regular operating schedule.

T_n = Total number of regularly scheduled operating days for the worksite.

V_r = Total number of weekly window vehicle trips that occur during the reduced staffing schedule.

T_r = Total number of reduced staffing schedule days.

1.15 = Discount factor.

The same methodology used for determining the total number of annual workdays for the worksite (T) shall be applied to determine the values for T_n and T_r.

- j. Employees that begin work during the window and do not respond to the survey must be calculated as one employee per vehicle arriving at the worksite.
- k. Drive alones count as one person per vehicle arriving at the worksite.
- l. Reporting errors resulting from missing or incorrect information must be calculated as one employee per vehicle arriving at the worksite. Reporting errors that do not indicate

the time when the employee begins work must be assumed to occur in the peak window.

C. AVR DATA COLLECTION METHODS

Each employer must collect AVR data by one of the following applicable methods:

1. AVR Survey

Employers must conduct an AVR survey approved by the SCAQMD. The survey should be taken over five consecutive workdays, Monday through Friday, and identify the transportation modes that employees use to travel to the worksite and begin work during the 6:00 a.m. - 10:00 a.m. window, each day during the survey week. The AVR survey data must be available and traceable to an individual employee. This may be through employee identification numbers, employee signature, or a pre-approved ~~alternative~~ electronic ~~individual~~ identifier specific to each employee. The surveys ~~should~~ shall be distributed at the end of or following the planned survey week so that the survey responses will represent actual commute activity. An SCAQMD approved employee survey form can be found in the ~~Annual Program~~ ECRP forms.

a) AVR Survey Parameters

The AVR survey data cannot be more than six months old at the time of program submittal. The six month period begins on the final day of the survey period. The response rate to the survey must be at least 60 percent of those employees who begin work during the window. The remaining non-responses over 60 percent to 100 percent shall be treated as single occupant vehicle commuters, however, if an employer achieves a 90 percent response rate or higher, the remaining non-response percentage can be reported in the “Other Days Off” category. The net effect on the AVR calculation will be neutral. The AVR survey must be conducted during a typical work week. The weeks to be specifically excluded from the AVR survey week are the weeks including the following dates:

New Year’s Day	January	1
Martin Luther King Jr. Birthday	January	(Third Monday)
Presidents Day	February	(Third Monday)
Memorial Day	May	(Last Monday)
Independence Day	July	4
Labor Day	September	(First Monday)
California Rideshare Week	October	(First Week)
Veteran's Day	November	11
Thanksgiving Day	November	(Fourth Thursday)
Christmas Day	December	25

AVR surveys shall not be conducted during these weeks even ~~though~~ if the employer does not observe these holidays or is open for business. Nor shall employers conduct an AVR survey during a week in which they observe a holiday not listed above.

The days these holidays are observed may vary from year to year; therefore, it will be the responsibility of the employer to obtain these specific holiday dates to ensure exclusion of these weeks from their AVR survey week.

Each employer should encourage employee involvement in either of the following ways:

- i. ~~Through an employee survey that includes questions soliciting suggestions for program improvement and/or strategies which may be used for ECRP development;~~
or
- ii. ~~An employer may implement a program which actively involves employees, such as focus groups, employee committees, etc.~~

b) Window Period for AVR Calculation

The employer must calculate the AVR based on the 6:00 a.m. - 10:00 a.m., Monday through Friday window except for businesses operating seven days a week. The AVR window for businesses operating seven days a week is 6:00 a.m. - 10:00 a.m. and the AVR reporting period is the five consecutive days, of the seven operating days, when the majority of the employees are scheduled to ~~report to~~ begin work. Businesses operating seven days a week may survey over a seven day period so that for purposes of AVR reporting, they will account for individual employees over that portion of their five day work week that falls within the five consecutive days.

The employer may use an alternative window or week upon writing the SCAQMD and receiving written approval. The alternative window must be a consecutive four hour period between 4:00 a.m. and 11:00 a.m. and a consecutive five day period of the seven day week when the majority of their employees are scheduled to report to the worksite in the peak window. Consequently, the reporting period must be the same five consecutive days for all employees included in the AVR calculation.

c) AVR Calculation

The AVR calculation is based on data obtained from an approved SCAQMD survey method, random sampling, or recordkeeping, and ~~should~~ shall include all employees who begin work in the 6:00 a.m. - 10:00 a.m. window.

The AVR is calculated by dividing the number of employees who report to the worksite, by the number of vehicles that arrive at the worksite, during the five day window period. The AVR figure should be rounded off to the second decimal place. For example: 1.4576 becomes 1.46 AVR.

2. Random Sampling

Employers with a minimum of 400 employees reporting ~~at to~~ to the worksite during the peak window, have the option of determining AVR by a random sample method. The random sample method and sample size must receive written approval from the SCAQMD prior to administration of the survey. The random sample method ~~should~~ shall comply with all of the following criteria:

- a. Members of the sample must be selected on a probability basis (random selection) that assures that each population member is given an equal chance of selection;
- b. All employees reporting in the window for calculating AVR must be considered as the relevant population from which the sample is drawn;

- c. The sample must measure all potential commute modes for employees arriving at the worksite during the window and shall account for all employees not arriving at the worksite during the window due to compressed workweek day off, vacation, sick leave, furlough day, or other (e.g., maternity leave, bereavement leave, etc.);
- d. Any employees designated for the random sample that do not respond to the survey are counted as solo drivers;
- e. At least 60 percent survey response rate must be achieved;
- ~~f. The sample size must be determined with the AQMD's approval of sampling method;~~
- ~~g.f.~~ Data from the last three compliance years shall be kept at the worksite and available for inspection;
- ~~h.g.~~ Any data submitted via electronic media must be compatible with SCAQMD's software and must be able to be entered into AQMD's system;
- ~~i.h.~~ The random sample survey must be taken not more than six months prior to submittal of the Annual Program, with the six month period beginning on the last day of the survey week; and
- ~~j. The random sample method must receive written approval from the AQMD prior to administration of the survey; and~~
- ~~k.i.~~ The random sample method must be re-certified 60 calendar days prior to the program due date, only when the employer proposes to modify its approved certification method or upon amendments to Rule 2202 or guidelines that changes AVR data collection, calculations or methodologies.

3. Alternative AVR Data Collection

~~The AQMD must pre approve and certify alternative AVR data collection methods as complying with these guidelines. Employers, vendors, consultants, or other entities requesting certification for alternative AVR data collection methods must request certification at least 60 calendar days prior to the annual registration due date. Once the certification method is approved, re-certification is required 60 calendar days prior to the established due date, only when the employer proposes to modify its approved certification method or upon modifications to Rule 2202 that change AVR collection methods or methodologies. The AQMD will review and respond to the request within 14 calendar days. Certification will only be granted for those AVR data collection methods that comply with these guidelines.~~

Employers have the option of selecting an alternative AVR data collection method for ~~verifying calculating the worksite AVR, as long as it complies with all of the following criteria:~~ Alternative AVR data collection methods must be certified by the SCAQMD prior to use, in accordance with the ECRP guidelines and the following criteria:

- a. Employers, vendors, consultants, or other entities requesting certification for alternative AVR data collection methods must request certification at least 60 calendar days prior to the annual ECRP due date;
- ~~a.b.~~ Data must be gathered from all employees who begin work during the window;
- ~~b.c.~~ The response rate to the data collection method must be at least 60 percent of those employees who begin work during the peak window. The remaining non-responses over 60 percent to 89 percent shall be treated as single occupant vehicle commuters. However, if an employer achieves a 90 percent response rate or higher, the remaining

non-response percentage can be reported in the “Other Days Off” category in the AVR calculation;

- ~~e.d.~~ The data collected must reflect the daily commuting activity of employees and their modes of travel that occur during each month or quarter of the program cycle;
- ~~d.e.~~ Quarterly or monthly AVR must be calculated separately, and must be aggregated to determine the yearly AVR calculation;
- ~~e.f.~~ Data from the last three compliance years shall be kept at the worksite and be made available upon request;
- ~~f.g.~~ The following data must be available, and traceable to individual employee records: travel mode for each day data is collected; any data that is specified in ~~the section on~~ II.C. AVR Data Collection Methods; and, employee ID number or other individual identification;
- ~~g.h.~~ Any data submitted via electronic media must be compatible with the SCAQMD’s software;
- ~~h.i.~~ The data used for the AVR calculations cannot be more than six months old, with the six month period beginning on the last day of the survey week; and
- ~~i.~~ ~~The AVR data collection method must be pre-approved by the SCAQMD; and~~
- j. The alternative AVR data collection method must shall be re-certified 60 calendar days prior to each program due date, ~~only~~ when the employer proposes to modify its approved ~~certification~~ method or upon amendments to Rule 2202 or guidelines that changes AVR data collection, calculations or methodologies.

D. AGGREGATING AVR FOR MULTI-SITE EMPLOYERS (Optional)

Employers that ~~have multiple worksites~~ submit a multi-site plan may choose to ~~submit an aggregated Annual Program that includes the AVR data for all of the regulated worksites that belong to the multi-site employer rather than submit Annual Programs for each worksite individually in that ECRP.~~ For worksites that belong to the multi-site employer, the aggregate AVR is the total number of window employees divided by the total number of vehicle trips for all the worksites in the multi-site plan. All worksites that are to be included in the Aggregate AVR calculation must be within the same AVR Performance Zone.

Aggregate AVR can be obtained in three steps. First, the number of peak window employees used in calculating each worksite AVR must be added. This sum will yield the total number of window employees for all worksites. Second, the number of vehicle trips used in calculating each worksite AVR must be added. This total will yield the total number of vehicle trips for all worksites. Finally, the total number of employees must be divided by the total number of vehicle trips to obtain the combined AVR for all worksites. This calculation will then yield the aggregate AVR for the multi-site employer.

Example:

$$\text{AVR} = \frac{\text{Window employees for site 1} + \text{window employees for site 2} \dots}{\text{Vehicle trips for site 1} + \text{vehicle trips for site 2} \dots}$$

Employers submitting multi-site programs may also voluntarily include worksites with fewer than 250 worksite employees in the aggregated AVR and/or employees of other businesses located at the worksite not subject to the Rule. In order to do so, all provisions of the AVR Data

Collection section must be met, and the employer must demonstrate that an AVR baseline calculation has been established. Employers at non-regulated worksites ~~do not need~~ are not required to implement other ECRP elements, such as, having an on-site ETC, or offering employer incentives or and good faith effort determination elements. Employers, voluntarily including worksites that have less than 250 worksite employees, must provide a letter of declaration signed by an official authorized to contract on behalf of and/or legally bind the employer which declares the following:

- a. The employer is voluntarily agreeing to subject itself to the authority and requirements of Rule 2202 for the worksites which currently have fewer than 250 employees, and that they are doing so freely and wholly voluntarily without any duress on behalf of the SCAQMD;
- b. The employer waives its right to challenge the applicability of Rule 2202 to any and all included sites within the SCAQMD should enforcement action be taken against the employer; and,
- c. The employer is receiving a benefit from ~~so~~ agreeing in that they are being allowed to claim ~~multi-site~~ vehicle trip credit toward their aggregate AVR.

E. ANNUAL AVR PERFORMANCE REQUIREMENT

Employers shall submit an ~~Annual Program ECRP~~ and demonstrate that they have met the annual average vehicle ridership ~~target performance requirement~~ for the AVR Performance Zone in which the worksite is located. Employers unable to meet the annual average vehicle ridership AVR target performance requirement and are not submitting a High AVR or AVR Improvement plan must submit:

- a. An ECRP Offset annual plan where the difference between the worksite AVR and the target AVR Performance Zone is offset through participation in the Air Quality Investment Program (AQIP) or implementation of ~~e~~Emission r~~Reduction s~~Strategies (ERS) in accordance with the provisions of Rule 2202; or
- b. An ECRP annual~~Good faith effort~~ plan that includes the requirements described in section II.F. *Good Faith Effort Determination Elements* subject to the following conditions:
 - i. Unless otherwise stated, the good faith determination elements must be implemented such that they are reasonably likely to improve a worksite AVR by at least 0.01 annually. Employers must continue to demonstrate a good faith effort toward achieving the AVR target.
 - ii. If a worksite AVR decreases, remains the same, or does not improve from the previously submitted ECRP, the selection of strategies must be modified, the number of strategies increased, or an ECRP offset, AQIP, or ERS be implemented.
 - iii. Employers shall ~~maintain~~ implement all currently approved good faith effort plan strategies until a new Annual Program ECRP is approved.
 - iv. Employers may choose to implement programs or strategies offered by third party service providers (e.g., County Transportation Commissions, TMA/TMO, contracted services). If any plan strategy offered by a third party service

provider is discontinued, the employer shall continue to implement the discontinued strategy or amend the plan.

- ~~iii. If any plan strategy offered by a third party service provider is discontinued, the employer shall continue to implement the discontinued strategy or amend the program.~~
- ~~iv.v. Deletion or substitution of any plan strategies is not allowed unless approved by the Executive Officer or designee in writing.~~
- ~~v. Unless otherwise stated, strategies must be implemented such that they are reasonably likely to improve a worksite AVR. Employers must continue to demonstrate a good faith effort toward achieving the AVR performance requirement. If a worksite AVR decreases, remains the same, or does not improve from the previously submitted Annual Program, the selection of strategies must be modified, the number of strategies increased, or an ECRP offset, AQIP, or emission reduction strategy be implemented.~~

A flow chart that identifies ~~showing~~ the good faith effort determination elements and the various rule options that employers may use to comply with the Rule requirements is shown in Figure-1
2.

Rule 2202 Requirements

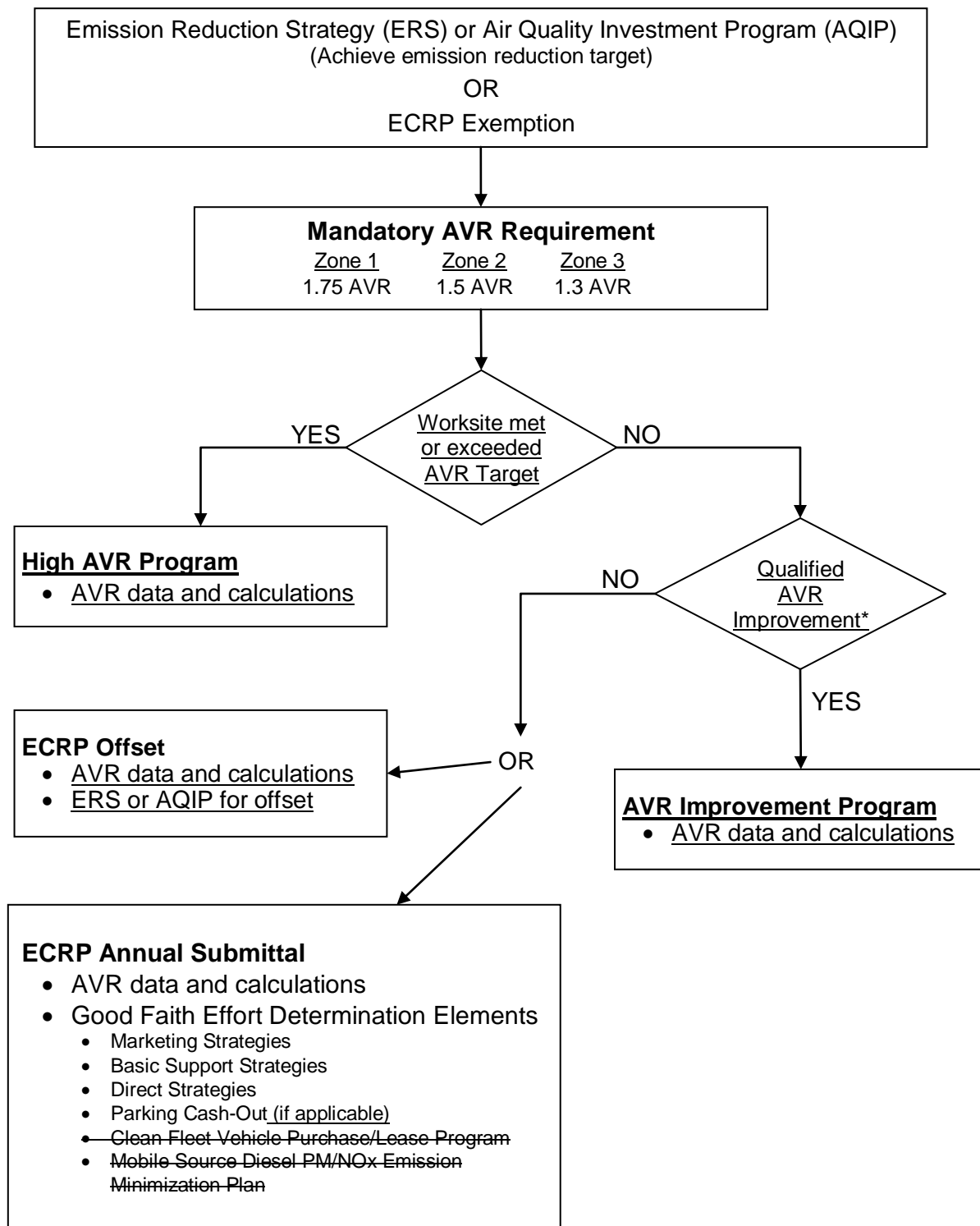


Figure 1.2. Rule 2202 Requirements – Compliance Flow Chart

F. GOOD FAITH EFFORT DETERMINATION ELEMENTS

Employers submitting an ~~Annual Program ECRP~~, who have not attained their target AVR, and are not submitting a High AVR or AVR Improvement Program plan, shall demonstrate that the elements for the required strategies in each of the ~~six~~ four (6 ~~4~~) listed categories are implemented. Descriptions of each element can be found in section V. *Employee Commute Reduction Strategies*.

1. Marketing Strategies. Must include at least five (5) of the following strategies:
 - a. Attendance at a marketing class,
 - b. Direct communication by the highest ranking official,
 - c. Employer newsletter, flyer, announcements, memos or letters
 - d. Employer rideshare events,
 - e. New hire orientation,
 - f. Rideshare bulletin boards,
 - g. Rideshare website,
 - h. Rideshare meetings or focus group(s), or
 - i. Other marketing strategies that have been approved by the SCAQMD.

2. Basic Support Strategies. Must include at least five (5) of the following strategies:
 - a. Commuter Choice Programs,
 - b. Flex time schedules,
 - c. Guaranteed return trip,
 - d. Personalized commute assistance,
 - e. Preferential parking for ridesharers,
 - f. Ride matching services,
 - g. Transit information center, or
 - h. Other basic support strategies that have been approved by the SCAQMD.

3. Direct Strategies. Must include at least five (5) of the following strategies:
 - a. Auto services,
 - b. Bicycle program,
 - c. Compressed work week schedules,
 - d. Direct financial awards,
 - e. Discounted or free meals,
 - f. Employee clean vehicle purchase program,
 - g. Gift certificates,
 - h. Off-peak rideshare program,
 - i. Parking charge or subsidy program,
 - i-j. Parking cash-out/parking management (voluntary)
 - ~~j-k.~~ k. Points program,
 - ~~k-l.~~ l. Prize drawings,
 - ~~l-m.~~ m. Startup incentive,
 - ~~m-n.~~ n. Telecommuting,
 - ~~n-o.~~ o. Time off with pay,
 - ~~o-p.~~ p. Transit subsidy,
 - ~~p-q.~~ q. Vanpool program, or

~~notified of this change in writing by the employer within 12 weeks after the beginning of the absence.~~

C. ~~CENTRALIZED RIDESHARE SERVICE CENTER~~

~~The Centralized Rideshare Service Center (CRSC) is a strategy that may be used by employers submitting a Multi-Site program that will ECRP to provide equivalent services in lieu of having a certified person-ETC at each worksite in the plan. Employers must have written approval from the SCAQMD prior to implementing a CRSC. The Request for approval must include information describing the CRSC in detail and show how it will provide equivalent ETC services to the specific worksite(s).~~

~~The Request for implementing a CRSC must have include the following elements:~~

- ~~a. Identification of the CRSC location;~~
- ~~b. Descriptions of the process of employee access to rideshare information and services, including an explanation of how it will provide services equivalent to having an ETC at each worksite;~~
- ~~c. Descriptions of how each worksite will market, implement and maintain records in a manner equivalent to having an ETC or On-Site Coordinator at the worksite;~~
- ~~d. Explanations of the ETC availability and accessibility to employees affected by the program; and,~~
- ~~e. Assurance that copies of all relevant supporting program materials is maintained at the CRSC, unless, upon written approval, other record retention arrangements have been made. Program materials include, but are not limited to, all marketing materials, flyers, brochures, pamphlets, schedules, and copies of the most recently approved Multi-Site ECRPs.~~

~~SCAQMD staff will review each request on a case by case basis to determine whether the CRSC meets the following criteria:~~

- ~~a. Identifies the CRSC facility location and demonstrates availability and accessibility to the ETC by all employees;~~
- ~~b. Demonstrates that the Multi-Site ECRP is adequately marketed and implemented at each specific all included worksites; and~~
- ~~c. Ensures that all other sites in the Multi-site program submittal have identified a worksite contact person who:
 - ~~i. Has knowledge of the employer's Multi-Site ECRP;~~
 - ~~ii. Has knowledge of the employer's marketing methods; and~~
 - ~~iii. Is available to meet with SCAQMD compliance staff.~~~~

~~D. TRAINING PROVIDERS~~

~~Training Providers for ETC training programs must be certified annually unless otherwise specified by the AQMD. In order to be certified, the training providers must meet or employ instructors that meet all of the following requirements:~~

- ~~a. A current certificate as an ETC;~~

- b. ~~A bachelor's degree in Transportation Planning, Urban Planning or a related field. If the degree is not in one of these fields, the successful completion of a TDM certification program or equivalent recognized by the AQMD may be substituted;~~
- c. ~~Two years of professional training experience and three years of managerial experience in Transportation Demand Management;~~
- d. ~~Knowledge of Rule 2202, related fee rules, and other AQMD on road transportation related rules; and,~~
- e. ~~Use of a curriculum for ETC Training programs certified by the AQMD that includes, at a minimum, the development, implementation, monitoring and marketing of ECRPs; recordkeeping requirements; AVR calculations; survey techniques; and an overview of air quality laws, rules, and regulations.~~

IV. SPECIAL PROCEDURES

A. EXTENSIONS

If an employer needs more time to submit a program to meet the requirements of these Guidelines and Rule 2202, additional time may be requested from the SCAQMD. An employer may request an extension to the program due date under the following circumstances:

- a. ~~If an employer needs more time to submit a program to meet the requirements of these Guidelines and Rule 2202, additional time may be requested from the SCAQMD. The request must be in writing, state the reason for the extension request, the length of time needed, and include the appropriate filing fee, as specified in Rule 308 (n) and Rule 313 (f)(4);~~
- b. All extension requests and fees must be received by the SCAQMD, no later than 15 calendar days prior to the program due date;
- c. Requests are considered on a case-by-case basis and ~~are granted for reasons that are beyond the control of the employer~~ shall include reasonable justification for extension request, such as, but not limited to, organizational restructuring, or the unforeseen long-term absence of an ETC;
- d. An employer may request an extension to the program due date after the program has been disapproved for the first time. The request must be received within 15 calendar days of the receipt of the ~~program plan~~ disapproval. The SCAQMD will inform the employer in writing within 15 calendar days of receipt of request, whether the extension has been granted;
- e. An employer may, upon receipt of a written objection to the terms of the proposed program by an employee, employee representative or employee organization; request a single extension of 30 calendar days. A copy of the written objection should be attached to the request. One such request shall be granted by the SCAQMD; no subsequent extension may be granted for this purpose; and
- f. Any change in the permanent due date that results in additional time to submit a ~~program plan~~ will be considered an extension of time and shall be subject to an the extension filing fee, as specified in Rule 308 (n) and Rule 313 (f)(4).

B. PROGRAM AMENDMENTS

An approved ECRP may be amended between program submittal dates by submitting a proposed program amendment in writing to the SCAQMD along with the applicable fee. Any change to the implementation of an approved program requires an written SCAQMD approved ~~program revision~~. ~~Program changes which are in effect, including but not limited to change of employee transportation coordinator at the worksite, must be submitted in writing to the AQMD. Any change that affects the attainment of the AVR and requires evaluation by AQMD staff is subject to a per worksite amendment fee. The program amendment must include the following:~~

- a. Letter of explanation of proposed amendment signed by the highest ranking official;
- b. A copy of each affected strategy page from the last approved plan;
- c. A copy of each of the proposed replacement strategy pages; and,
- d. Applicable amendment fee as specified in Rule 308.

Employers proposing changes in strategies are encouraged to consider comparable ones that will continue making progress towards attaining the target AVR. ~~The Section V. Employee Commute Reduction Strategies,~~ identifies a number of strategies that ~~could~~ can be selected to substitute for those being changed. Any previously approved ECRP shall remain in effect ~~The amendment cannot be implemented until the amendment is approved by SCAQMD in writing. SCAQMD will either approve or disapprove the amendment within 90 calendar days of receipt. The amendment request must include the following:~~

- ~~a. Letter of explanation of proposed amendment signed by the highest ranking official.~~
- ~~b. A copy of each affected strategy page from the last approved plan.~~
- ~~c. A copy of each of the proposed replacement strategy pages.~~
- ~~d. Applicable amendment fee.~~

Amendment requests may be approved if the employer demonstrates to the satisfaction of the Executive Officer, or designee that the new strategy will result in an AVR which is equal to or better than the strategy it is replacing.

The amendment fees shall not apply when the amendment consists solely of ~~additional or enhanced strategies to the program~~ the addition of strategies to the program or improvements to the existing strategies of an approved program or when the strategy amendment is submitted at the same time as part of the Annual Program submittal. Improvements to existing strategies may include, but are not limited to, increased meeting frequency or increases to subsidy amounts.

C. CHANGE OF OWNERSHIP

In the case of ownership mergers, or change of ownership, the new owner must notify the SCAQMD of this change within 30 calendar days of the new ownership. The new employer, within 90 calendar days must submit a new ~~Annual Registration or Annual Program ECRP or other compliance option~~ to the SCAQMD which adheres to all provisions of Rule 2202 and Guidelines, or submit a letter which states they will continue to implement the program approved by the SCAQMD for the prior owner(s).

D. RELOCATION

Any employer relocating to a new worksite must notify the SCAQMD within 30 calendar days of the relocation. Relocations fall into two categories ~~and are explained below:~~

- a. Employers relocating within two miles of the previous worksite address may elect to continue to implement the most recently approved ~~Annual Program~~ ECRP or the employer may elect to submit a new ~~Annual Program~~ ECRP. The employer must inform SCAQMD of the preference in the notification of relocation letter.
- b. Employers relocating more than two miles from the previous worksite must submit a new ~~Annual Program~~ ECRP within 90 calendar days of the relocation.

Worksite relocations that occur over time are subject to applicability requirements as described in section I.B. Applicability and Rule 2202 (b).

E. DECLARED BANKRUPTCY

An employer who has declared bankruptcy for the official business or governmental operations of its organization or employer through a judicial court filing and confirmation process may request the SCAQMD grant a temporary waiver from complying with the requirements of this Rule. Upon demonstration of the filing and confirmation of bankruptcy, the SCAQMD will grant an exemption for the duration of bankruptcy, not to exceed two years; from the date of the waiver.

Employers shall submit an ECRP within 90 days of the bankruptcy waiver expiration unless they have submitted a written request for an exemption from the rule requirements pursuant to Rule 2202 (I)(1).

F. DECLARED STATE OF EMERGENCY

During a period of significant impairment of transportation systems associated with an event resulting in a local, state or federally declared state of emergency, the SCAQMD may approve programs or program amendments including strategies which decrease trips associated with any location in the SCAQMD, including locations other than a worksite included in the program. Such strategies may be included in any program and may be a substitution for measures contained in an approved program. In the event of substitution, the employer shall demonstrate that any decrease in AVR at a worksite subject to the program will be offset by trips reduced elsewhere in the SCAQMD.

~~G. ADDING WORKSITES TO A MULTI-SITE PROGRAM~~

~~A new worksite may only be added to a Multi-Site program submittal on the next annual submittal, or alternatively, may be filed as a single site submittal. Given the variety of employer situations, each Multi-Site program submittal will be evaluated individually and considered on a case-by-case basis.~~

H.G. PROGRAM DISAPPROVAL APPEALS

The SCAQMD has 90 calendar days to review the resubmitted Annual Program submittal. If the employer believes that the program meets the requirements of Rule 2202 and the Guidelines, and that the program was improperly disapproved, the employer may appeal the disapproval to the

SCAQMD Hearing Board in accordance with Rule 216 - Appeals. A petition for appeal of disapproval must be made within 30 calendar days after the employer receives the notice of disapproval.

I.H. DELAY PROGRAM REVIEW REQUEST

If an employer, employee, employee representative or employee organization requests a delay in action of program review, the request must be in writing to the SCAQMD within 30 calendar days of program submittal and cannot delay the period of time to exceed the 90th day after submittal.

V. -EMPLOYEE COMMUTE REDUCTION STRATEGIES

A. COMMUTE REDUCTION STRATEGIES

Below are the descriptions of the Good Faith Effort Determination Elements that employers can choose to implement. These strategies can be developed and implemented to meet the individual needs of employers in achieving the designated AVR target. Direct financial strategies are not required for program approval.

1. Auto Services - The employer provides auto services for employees participating in the commute reduction program. The employer must provide the type of service (e.g., oil changes, car washes, fuel, oil change, tune-up, repair certificate, etc), monetary value, frequency, eligibility, and minimum requirements to participate in the program.
2. Bicycle Program - The employer provides eligible employees, who commute by bicycle, unique incentives and tools only available to bicyclists and not offered elsewhere in the plan. Examples of incentives that can be included in a program are:
 - Bicycle matching/meetings;
 - Shoes, clothing, helmets, etc.;
 - Lockers, racks, etc.;
 - Bicycle repair services;
 - Tools or repair kits;
 - Discounts at local bicycle shops; or
 - Other bicycle related services.
3. Commuter Choice Programs - The employer provides a Commuter Choice tax benefits program, based on Section 132(f) of the federal tax code. This program allows employees to set aside pre-tax income for qualified commute modes. Section 132(f) covers transit, vanpool and bicycle benefits as well as qualified parking.
4. Compressed Work Week - A eCompressed wWork wWeek (CWW) schedule applies to employees who, as an alternative to completing the basic work requirements in five eight-hour workdays in one week, or ten eight-hour days in two weeks, are scheduled in a manner which reduces trips to the worksite. Employers must indicate if the CWW is offered to all employees, or eligible employees and the total number of employees participating in each type of CWW schedule. It is recommended, but not required, that employers implementing this strategy have a formal written policy on CWW schedules.

5. Direct Communication - Direct communication by the employer's highest ranking official at the worksite, to introduce and/or promote alternative commute modes, outline incentives and encourage participation in a rideshare program. This must occur, at a minimum, on an annual basis and may occur as electronic or written communication.
6. Direct Financial Awards - The employer, or other funding sources, provides eligible employees with cash subsidies for participation in the organization's commute reduction program. The employer must provide the monetary value of the award, frequency, eligibility, and minimum requirements to participate in the program.
7. Discounted/Free Meals - The employer provides eligible employees with free or discounted meals for their participation in the commute reduction program. The employer must provide the monetary value of the award, frequency, eligibility, and minimum requirements to participate in the program.
8. Employee Clean Vehicle Purchase/Lease Program - Encourage and offer incentives for employees who purchase or lease partial zero emission vehicles (PZEV), advance technology PZEV (AT-PZEV), or zero emission vehicles (ZEV) (e.g., credit union loan rate discounts, financial incentives).
10. Employee Newsletter, Flyer, Announcements, Memos or Letters - A communication tool to introduce and/or promote alternative commute modes, outline incentives and encourage participation in a rideshare program that is updated and distributed, at a minimum, on a quarterly basis. If provided electronically, an update or notice must be sent to all employees of the communication's availability.
11. Employee Rideshare Events - Employer sponsored events which promote rideshare opportunities that occurs, at minimum, annually.
12. Flex Time - The employer permits employees to adjust their work hours in order to accommodate public transit schedules or rideshare arrangements. Ideally, employers would have a formal written policy on Flex Time. Do not select this strategy unless flex time is linked to your rideshare program.
13. Gift Certificates - The employer or other funding source provides eligible employees with gift certificates for participation in the commute reduction program. The employer must provide the certificate's monetary value, frequency, eligibility, and minimum requirements to participate in the program.
14. Guaranteed Return Trip - The employer provides eligible employees with a return trip to the point of commute origin, when a need for the return trip arises. This need may be a personal emergency, an unplanned situation, or business-related activities (such as overtime). The employer needs to indicate if this service would be provided by employer vehicle, rental car, taxi, another employee, TMA/TMO, or other entities.
15. Marketing Class - The ETC attends a marketing class within 12 months prior to plan submittal. Proof of attendance must be ~~submitted~~included along with the ~~Annual Program submittal~~. The marketing class may include, but is not limited to:
 - Development of a communication/marketing plan;
 - Development of marketing materials;
 - Development of presentation materials;

- Use of existing programs (e.g., Rideshare Week, rideshare fairs, etc.); and
 - Fundamentals of marketing (including promotion techniques and consumer behavior).
16. New Hire Orientation – The employer provides newly hired employees an ~~explanation~~ overview of alternative commute ~~modes~~ options and employer incentives to promote and encourage participation in a rideshare program.
17. Off Peak Rideshare Program - The employer may voluntarily expand their commute reduction program to include employees who commute outside of the peak window.
18. Other Strategy(ies) - The employer can provide many types of strategies designed to encourage solo commuters to participate in the employee commute reduction program under each strategy heading. These strategies can include, but are not limited to, educational programs, use of clean fuel vehicles for commuting, employer vehicles for ridesharing, carsharing, mobility hub services, rideshare clubs, on-site amenities, electric vehicle infrastructure, voluntary worksite transfers, or the use of TMA/TMO services. Employers who list more than one strategy may receive credit for each individual strategy.
19. Parking Charge/Subsidy - A parking fee is charged to employees who drive alone to the worksite and/or in exchange. ~~The employers~~ may provide a subsidy to employees that can be used for the cost of alternative transportation modes. The employer must provide the monetary value of the charge/subsidy, frequency, eligibility, and minimum requirements to participate in the program. Employers who implement a Parking Charge/Subsidy strategy cannot claim credit as a Parking Cash-out program unless both are independent strategies.
20. Parking Cash-Out/Parking Management Strategies – The employer may voluntarily choose to offer a cash allowance to an employee, at a minimum equivalent to the parking value that the employer would otherwise pay to provide the employee with a parking space as described in the provisions of the Health and Safety Code §43845. Employers may select this strategy as a Good Faith Determination Element provided they are not legally obligated to implement this requirement.
- ~~20~~21. Personalized Commute Assistance - The employer provides personalized assistance such as transit itineraries, carpool matching and personal follow-up to employees. Examples of ways an employer can provide this service to employees are:
- Organize carpool/vanpool formation meeting(s).
 - Assist in identifying park and ride lots.
 - Assist in identifying bicycle and pedestrian routes.
 - Assist in providing personalized transit routes and schedule information.
 - Provide personalized follow-up assistance to maintain participation in the commute reduction program.
- ~~21~~22. Points Program - Employees earn points for each day of participation in the employer’s commute reduction program. Points are redeemed for such rewards as time off, gift certificates, cash or merchandise. The employer must provide the monetary value of the points, frequency, eligibility, and minimum requirements to participate in the program.
- ~~22~~23. Preferential Parking for Ridesharers - The employer provides eligible employees with preferential parking spaces to park their vehicles. These spaces must be clearly posted or

marked in a manner that identifies them for carpool or vanpool use only. The employer shall provide, at a minimum, the following information:

- Number of preferential parking spaces,
- Minimum number of persons per vehicle required to be eligible,
- Minimum number of days or percentage of ridesharing required to be eligible, and
- Method of vehicle identification (e.g., tags, stickers, or license plate number).

~~23~~24. Prize Drawings - The employer provides eligible employees, at a minimum, quarterly, with a chance to win prizes for participation in the commute reduction program. The employer must provide the monetary value of the prizes, frequency, eligibility, and minimum requirements to participate in the program.

~~24~~25. Rideshare Bulletin Board - A physical display with materials that encourage and promote rideshare participation, publicizes incentives and, provides information about the employer's rideshare program. The bulletin board should be in a location that would be most likely viewed by the majority of ~~the~~ employees and must contain different information than the Transit Information Center. It may be necessary to have more than one bulletin board depending on the size of the worksite or employee population.

~~25~~26. Rideshare Matching Services – The employer provides, at a minimum, annually, rideshare matching services, zip code lists, or assistance in finding commute alternatives for all employees. The employer must indicate how and when employees are matched (e.g., during new hire orientation, as part of the employer's annual AVR survey, or on demand). The employer must also indicate how the service is provided to employees, such as:

- Employer based system,
- Regional commute management agency,
- TMA/TMO system,
- Zip code lists/maps, and/or
- Outside service (e.g., consulting services).

~~26~~27. Rideshare Meetings / Focus Groups - Meetings conducted with employees, at a minimum, semi-annually, to solicit input on commute behavior, incentives to rideshare, and to discuss ways to overcome the constraints to participating in alternative commute modes. These meetings may also be used to introduce employees who live in similar areas to foster the development of carpools and vanpools.

~~27~~28. Rideshare Website – An employer's website that is designed to act as a repository for information on the rideshare plan, that is updated, at a minimum, quarterly and is readily accessible to all employees. Employers may also implement other social marketing ~~websites—applications~~ that are administered by the employer for the purposes of encouraging site specific employee trip reductions. At a minimum, quarterly notices must be given to the employees about the availability of the web site.

~~28~~29. Startup Incentives - Incentives designed to reward solo commuters for joining a carpool ~~or~~, vanpool, or ~~using~~ other alternative commute modes, and are generally provided over a short period of time. The employer must provide the monetary value of the incentives, frequency, eligibility, duration, and minimum requirements to participate in the program.

~~29~~30. Telecommuting - Telecommuting means working at home, off-site, or at a telecommuting center for a full workday that eliminates the trip to work or reduces travel distance to the worksite by more than ~~50~~ 51%. Ideally, employers would have a formal written policy on telecommuting. Employers must state if telecommuting is offered to all employees or eligible employees/units, the total number of employees participating in the program, the number of days per week employee²s work at home or at a satellite work center, if a formal written policy exists, and if any training/orientation sessions are held in support of the program.

~~30~~31. Time Off With Pay - The employer provides eligible employees additional time off with pay for participation in the commute reduction program. The employer must provide the monetary value of the incentive, the amount of earned time off, frequency, eligibility, and minimum requirements to participate in the program.

~~31~~32. Transit Information Center - The employer provides a transit information center that makes available general transit information and/or the on-site sale of public transit passes, tickets or tokens to the worksite employees. At a minimum, the information must be updated quarterly.

~~32~~33. Transit Subsidy - Employers pay for all, or part, of the cost of commuting by local mass transit, commuter rail, train, or other public transit. The employer must provide the monetary value of the transit subsidy, frequency, eligibility, and minimum requirements to participate in the program.

~~33~~34. Vanpool Program - The employer provides eligible employees with a vanpool program designed to encourage the use of existing vanpools or the development of new vanpools. The employers must provide, ~~at a minimum, the following information:~~

- Total number of vans participating in the program;
- If the vans are employer owned or leased vans;
- If the vans are third-party owned or leased vans;
- If the vans are employee owned or leased vans;
- Amount and type of subsidies provided for insurance;
- Amount and type of subsidies for fuel and/or maintenance;
- If empty seats are subsidized, and value and length of time this subsidy is offered; and,
- Any other benefit unique to vanpoolers that is not duplicated elsewhere in the ~~plan~~ECRP submittal.

B. PARKING CASH-OUT PROGRAM

Employers who are subject to the parking cash-out provisions of the Health and Safety Code §43845 shall implement a parking cash-out program pursuant to the Health and Safety Code when the worksite ~~Annual Program ECRP~~ has not achieved the AVR target performance requirement and the current AVR fails to show an overall improvement in comparison to the previously submitted ~~Annual Program ECRP~~.

This parking cash-out requirement shall remain in effect until January 1, 2016, at which time the Executive Officer will evaluate the effectiveness of the parking cash-out program to determine if it should be continued, with recommendation back to the Governing Board.

~~Parking cash-out is a program where requires that employers offer a cash allowance to employees; in lieu of a parking space that when the employer would otherwise pay to provide the employee with a parking space. Parking cash-out applies to worksites where the employer leases employee parking, the parking lease is not included or bundled in the building lease, and the employer is able to reduce the number of parking spaces without penalty.~~

All employers subject to Health and Safety Code §43845 have a legal obligation to comply with state law regardless of whether an employer incorporates parking cash-out as one of the strategies in Rule 2202.

~~C. EMPLOYER CLEAN FLEET PURCHASE/LEASE PROGRAM~~

~~When acquiring cars and light-duty or medium-duty trucks by purchase or lease for employer vehicle operations in the AQMD, employers who operate fleet vehicles, shall agree to acquire vehicles that have emissions that are equivalent to or better than super low emission vehicles (SULEV) medium-duty trucks, ultra low emission vehicle (ULEV) passenger car, or ULEV light-duty trucks, which meet CARB guidelines. Employers shall submit an employer clean fleet plan form provided by the AQMD, if the employer operates fleet vehicles.~~

~~Rule 1191 – Light and Medium-Duty Public Fleet Vehicles definitions for passenger car, light-duty, medium-duty, and heavy-duty vehicles are applicable for purposes of this strategy. Acquired fleet vehicles can include vehicles that have been purchased, leased or donated, either new or used. For the purpose of this provision, fleet is defined as 4 or more vehicles and a vehicle lease is for a term exceeding four consecutive months (California Vehicle Code §371 *et seq.*).~~

The provisions of this strategy shall not apply to the following:

- ~~a. Emergency or rescue vehicles operated by local, state, and federal law enforcement agencies, police and sheriff's department, fire department, hospital, medical or paramedic facilities, and used for responding to situations where potential threats to life or property exist, including but not limited to fire, ambulance calls, or life-saving calls as defined in Section 165 of the California Vehicle Code and are equipped with red lights and sirens;~~
- ~~b. Vehicles used by law enforcement agencies for the purposes of surveillance or undercover operations;~~
- ~~c. Heavy-duty on-road vehicles;~~
- ~~d. Employer fleets consisting of evaluation or test vehicles provided or operated by vehicle manufacturers for testing or evaluation, exclusively;~~
- ~~e. Specialized vehicles that incorporate specially designed safety and security features for the protection of employees during transit;~~
- ~~f. Non-passenger car military vehicles;~~
- ~~g. Employers currently subject to Rule 1191 shall be deemed in compliance with this provision;~~
- ~~h. Donated vehicles for the first 180 days of inclusion in the employer's fleet. At the end of 180 days employers may include the vehicle into their fleet only if it meets the emission standard requirement of this section; or~~

- i. ~~If no complying vehicles are available or suitable for use due to non-availability or performance requirements, the Executive Officer may approve the use, on a case-by-case basis, of non-SULEV or better vehicles.~~

~~D. MOBILE SOURCE DIESEL PM/NO_x EMISSION MINIMIZATION~~

~~Employers shall submit a diesel PM/NO_x emission minimization plan form provided by the AQMD, if the annual plan submittal includes 1,000 or more window employees, the employer owns or operates on site off road mobile diesel equipment that operates exclusively at the worksite, and the equipment is located more than 12 consecutive months at the worksite. For multi-site employers this provision only applies to those individual sites with 1,000 or more window employees. Examples of on site off road mobile sources include, but are not limited to, yard hostlers, forklifts, riding lawnmowers, maintenance vehicles, tractors, or man lifts.~~

~~When implementing this strategy the following requirements apply:~~

- a. ~~The employer shall submit a triennial diesel emission audit report that includes, at a minimum, an inventory of mobile diesel equipment, fuel usage, and use of control technologies, if any (e.g., clean fuels, engine modification, and after-treatment equipment). Triennial reports are due the same time as the employer's Annual Program submittal.~~
- b. ~~The employer shall implement technically feasible control strategies as identified in the plan approved by the Executive Officer or designee, provided the sum of the annualized capital costs and the annual operating and maintenance costs do not exceed the cost per number of window employees, according to the following schedule:~~

**Mobile Source Diesel Emission Minimization Plan
Maximum Cost per Worksite**

Number of Window Employees	Maximum Cost
1,000-1,499	\$9,000
1,500-1,999	\$13,400
2,000-2,499	\$17,900
2,500-2,999	\$22,400
3,000-3,499	\$26,900
3,500-3,999	\$31,400
4,000-4,499	\$35,800
4,500-4,999	\$40,300
5,000-5,499	\$44,800
5,500-5,999	\$49,300
6,000-6,499	\$53,800
6,500-6,999	\$58,200
7,000-7,499	\$62,700
7,500-7,999	\$67,200
8,000-8,499	\$71,700
8,500-8,999	\$76,200
9,000-9,499	\$80,700
9,500-9,999	\$85,100
10,000 and up	\$89,600

- ~~c. AQMD staff will conduct technical feasibility and cost analysis in consultation with employers. Feasible minimization strategies shall be identified as conditions in the approved plan. Employers shall implement the plan expeditiously, but not later than two years from the date of the Diesel Emission Minimization plan's approval.~~
- ~~d. In conducting the cost analysis, the following methodology will be followed. The cost of a diesel emission control technology consists of capital costs and/or annual operating and maintenance costs. Capital costs will be annualized over the equipment life or a ten year default life may be applied with a 4% real interest rate. Capital costs are one-time costs; examples include the price of control equipment, engineering design, and installation, if applicable. Operating and maintenance costs are annual recurring costs and include expenditures on utilities, labor, and material costs associated with control equipment operation.~~

~~The cost analysis is calculated according to the following equation:~~

$$\text{Annualized Project Cost} = (\text{Capital Cost} * \text{CRF}) + \text{O\&M}$$

~~Where:~~

~~Capital Cost = One-time cost of the equipment, design, and installation.~~

~~CRF = Capital Recovery Factor. For a 10-year default life with a 4% real interest rate the CRF is 0.123.~~

~~O&M = Operation and maintenance cost for 1 year.~~

~~Typical capital costs and operating and maintenance costs for off-road emission control strategies are listed below:~~

Capital Costs	Operating & Maintenance Costs
Purchased Equipment/Device Cost <ul style="list-style-type: none"> ● New Off Road Vehicles ● New Diesel Engines ● Alternative Fueling Stations ● Diesel Particulate Filters ● Engine Catalysts Direct & Indirect Installation Costs <ul style="list-style-type: none"> ● Engineering/Design ● Construction 	Fuel Costs Labor Costs for Maintenance Maintenance Materials Replacement Parts Any Savings

Only the incremental costs between new and existing equipment/devices should be accounted for.

- e. Employers may appeal the conditions of diesel minimization plan to the Hearing Board pursuant to Rule 216 Appeals.
- f. The approved plan shall be subject to provisions of Rule 221 Plans.

VI. GLOSSARY

1. AGGREGATE AVR means the weighted average AVR of an employer that has several different worksites within the same AVR Performance Zone that are included within one Employee Commute Reduction Program.
- ~~2. ANNUAL PROGRAM means a form submittal that contains AVR survey results, a plan to achieve the performance requirement for the worksite, and an agreement to continue implementing the Employee Commute Reduction Program.~~
- ~~3.2.~~ AVERAGE VEHICLE RIDERSHIP (AVR) is the current number of employees that begin work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- ~~4.3.~~ AVR CALCULATION means the numerical method used to determine the worksite's AVR, calculated to two decimal places, in accordance with these guidelines.
- ~~5.4.~~ AVR DATA COLLECTION METHOD is a method for gathering employee commute mode data needed to calculate an employer's AVR.
- ~~6.5.~~ AVR PERFORMANCE ZONE is a geographic area that determines the average vehicle ridership performance requirement or target for a worksite pursuant to the map in Attachment I of this guideline. The AVR Performance Zones are as follows:
 - Zone 1: 1.75 AVR
 - Zone 2: 1.5 AVR
 - Zone 3: 1.3 AVR
- ~~7.6.~~ AVR WINDOW is the period of time, Monday through Friday between the hours of 6:00 a.m. and 10:00 a.m. used to calculate AVR in accordance with these guidelines. AVR Window, as applied to businesses operating seven days a week, is the period of time, Sunday through Saturday between the hours of 6:00 a.m. and 10:00 a.m., used to calculate AVR in accordance with these guidelines. ~~Employers using an alternative window or week must have written AQMD approval prior to the annual survey.~~
- ~~8.7.~~ CARPOOL is a vehicle occupied by two to six people traveling together between their residences and their worksites or destinations for the majority 51% of the total trip distance. Employees, who work for different employers, as well as non-employed people, are included within this definition as long as they are in the vehicle for the majority 51% of the total trip distance.
- ~~9.8.~~ CENTRALIZED RIDESHARE SERVICE CENTER (CRSC) is ~~a strategy that~~ may be used by employers submitting Multi-Site programs that will provide equivalent services in lieu of having a trained ETC and implementation records at each worksite.
- ~~10.9.~~ COMPLIANCE YEAR is the time period beginning when an ~~Annual Program ECRP~~ is approved until a new ~~Annual Program ECRP~~ is approved. Program amendments and extensions do not affect the compliance year.
- ~~11.10.~~ COMPRESSED WORK WEEK (CWW) ~~applies to employees who as is~~ an alternative schedule used to completing complete basic work requirements ~~in five eight hour workdays in one week, or 10 eight hour workdays in two weeks, are scheduled~~ in a manner which reduces vehicle trips to the worksite. The recognized compressed work week schedules for

this Rule are, but not limited to, 36 hours in three days (3/36), 40 hours in four days (4/40), or 80 hours in nine days (9/80).

- ~~12.11.~~ CONSULTANT ETC means a person that meets the definition of and serves as an ETC at a worksite other than the Consultant's employer.
- ~~13.12.~~ DIRECT FINANCIAL AWARD means an employee commute reduction strategy in which the employer awards cash, prizes, or items of cash value subsidies to an employee for specified rideshare behavior.
- ~~14.13.~~ DISABLED EMPLOYEE means an individual with a physical impairment that prevents the employee from traveling to the worksite by means other than a single-occupant vehicle.
- ~~15.~~ EMERGENCY OR RESCUE VEHICLE means any vehicle defined in Section 165 of the California Vehicle Code and is equipped with red lights and sirens as defined in Sections 30, 25269, and 27002 of the California Vehicle Code.
- ~~16.14.~~ EMPLOYEE means any person employed full or part-time by a person(s), firm, business, educational institution, non-profit agency or corporation, government or other entity. This term excludes the following: seasonal employees, temporary employees, volunteers, field personnel, field construction workers, and independent contractors.
- ~~17.15.~~ EMPLOYEE COMMUTE REDUCTION PROGRAM (ECRP) means an Annual Program, under the Employee Commute Reduction Program option, submitted to the SCAQMD, in accordance with these guidelines.
- ~~18.16.~~ EMPLOYEE TRANSPORTATION COORDINATOR (ETC) is an employee who has completed an SCAQMD certified training course and has been appointed to develop, market, administer, and monitor the Employee Commute Reduction Program at a single worksite. The ETC must be at the worksite during normal business hours when the majority of employees are at the worksite.
- ~~19.17.~~ FEDERAL FIELD AGENT means any employee who is employed by any federal entity whose main responsibility is National Security and performs field enforcement and/or investigative functions. This does not include employees in non-field or non-investigative functions.
- ~~20.18.~~ FIELD CONSTRUCTION WORKER means an employee who reports directly to work at a construction site.
- ~~21.19.~~ FIELD PERSONNEL means employees who spend 20 percent or less of their work time, per week, at the worksite and who do not report to the worksite during the peak period for pick-up and dispatch of an employer-provided vehicle.
- ~~22.~~ FLEET VEHICLES means, for purposes of this rule, any vehicles including passenger cars, light-duty trucks, and medium-duty on-road vehicles, owned or leased by an employer that totals four (4) or more vehicles.
- ~~23.~~ HIGH AVR NO FAULT INSPECTION is a No-Fault Inspection available only to worksites that reach or exceed their designated AVR. Worksites that pass this inspection will have their current plan filing fee reduced and are eligible for minimal filing requirements.
- ~~24.20.~~ HOLIDAYS are those days designated as National or State Holidays that shall not be included in the AVR survey period.

- ~~25.21.~~ INDEPENDENT CONTRACTOR means an individual who enters into a direct written contract or agreement with an employer to perform certain services and is not on the employer's payroll.
- ~~26.~~ LEASE, for purposes of the ~~Employer Clean Fleet Purchase/Lease Program~~, is a contract for the temporary use of a vehicle for a term exceeding four consecutive months pursuant to California Vehicle Code §371 et seq.
- ~~27.22.~~ LOW-INCOME EMPLOYEE means an individual whose salary is equal to, or less than, the current individual income level set in the California Code of Regulations, Title 25, Section 6932, as lower income for the county in which the employer is based. Higher income employees may be considered to be "low-income" if the employees demonstrate that the program strategy would create a substantial economic burden.
- ~~28.23.~~ MULTI-SITE EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency or other entity which has more than one worksite located within the ~~South Coast Air Basin~~ SCAQMD where 250 or more employees report to ~~a~~ each worksite.
- ~~29.24.~~ MULTI-SITE PROGRAM means ~~a single~~ an Employee Commute Reduction Program submitted to the SCAQMD to comply with these guidelines that encompasses more than one worksite within a single AVR Performance Zone that belongs to a multi-site employer.
- ~~30.~~ NO FAULT INSPECTION is ~~a pre arranged worksite employee commute reduction program compliance inspection that is initiated by the employer or the employer representative and is conducted by AQMD compliance staff, without penalty for non-compliance.~~
- ~~31.25.~~ NONCOMMUTING AVR CREDIT applies to employees who arrive at the worksite during the window for calculating AVR, and remains at the worksite or out of the SCAQMD's jurisdiction for a full 24 hour period or more to complete work assignments.
- ~~32.26.~~ OFF PEAK COMMUTE TRIP is a commute trip that occurs outside the peak commute window of 6:00 a.m. - 10:00 a.m., Monday through Friday.
- ~~33.27.~~ ON-SITE COORDINATOR is a person who has been designated by the employer as ~~an~~ "On-Site Coordinator" such and has knowledge of the employer's ECRP and marketing methods. The On-Site Coordinator is limited to program implementation rather than program development.
- ~~34.28.~~ PARKING CASH-OUT is a program where an employer offers to provide a cash allowance to an employee, at a minimum equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space pursuant to the provisions of the Health and Safety Code ~~Section~~ §43845.
- ~~35.29.~~ PART-TIME EMPLOYEE means any employee who reports to a worksite ~~on a part-time basis~~ fewer than 32 hours per week, but more than four hours per week. These employees shall be included in the employee count for purposes of Rule applicability; and for AVR calculations of the employer, provided the employees begin work during the window for calculating AVR.
- ~~36.30.~~ POLICE/SHERIFF means any employee who is certified as a law enforcement officer and is employed by any state, county or city entity. Such employees are ~~only~~ police officers

and sheriffs, who perform field enforcement and/or investigative functions. This would not include employees in non-field or non-investigative functions.

~~37.~~31. SEASONAL EMPLOYEE means a person who is employed for less than a continuous 90-day period or an agricultural employee who is employed for up to a continuous 16-week period.

~~38.~~32. STRATEGY means an ~~e~~Employee ~~e~~Commute ~~r~~Reduction ~~p~~Program element developed, offered and/or implemented by employers for the purpose of encouraging employees to use alternative modes of transportation other than single occupant vehicles when reporting to work during the ~~employer's~~ window.

~~39.~~33. STUDENT WORKER means a ~~student~~ person who is enrolled and gainfully employed (on the payroll) by an educational institution. Student workers who work more than four hours per week are counted for rule applicability and if they begin work during the 6:00 a.m. - 10:00 a.m. window are counted for AVR calculation.

~~40.~~34. TELECOMMUTING means working at home, off-site, at a satellite office or at a telecommuting center, for a full workday that eliminates the trip to work or reduces travel distance by more than ~~50~~ 51 percent.

~~41.~~35. TEMPORARY EMPLOYEE means any person employed by an employment service or agency that reports to a worksite other than the employment agency's worksite, under a contractual arrangement with a temporary employer. Temporary employees are only counted as employees of the temporary agency for purposes of Rule applicability and calculating AVR.

~~42.~~ TOTAL SURPLUS VEHICLE REDUCTIONS (TSVR) is the ~~sum of the surplus daily commute vehicle reductions that exceeds the designated AVR, at each worksite included in a Multi-Site program.~~

~~43.~~ TOTAL VEHICLE REDUCTION SHORTFALL (TVRS) is the ~~sum of the additional daily commute vehicle reductions needed to attain the designated AVR, at each worksite included in a Multi-Site program.~~

~~44.~~36. TRANSIT is a shared passenger transportation service which is available for use by the general public, as distinct from modes such as taxicabs, carpools, or vanpools which are not shared by strangers without private arrangement. Transit include buses, ferries, trams, trains, rail, or other conveyance which provides to the general public a service on a regular and continuing basis. Also known as public transportation, public transit or mass transit.

~~45.~~37. TRANSPORTATION MANAGEMENT ASSOCIATION OR TRANSPORTATION MANAGEMENT ORGANIZATION (TMA/TMO) means a ~~private~~ non-profit association that has a financial dues structure joined together in a legal agreement for the purpose of achieving mobility and air quality goals and objectives within a designated area.

~~46.~~ TRAINING PROVIDER means a ~~person(s), firm, business, educational institution, non-profit agency, corporation, or other entity which meets the minimum guideline qualifications and is certified by the AQMD to provide training to ETCs.~~

~~47.~~38. VANPOOL is a vehicle occupied by seven to 15 people traveling together between their residences and their worksites or destinations for ~~the majority~~ 51% of the total trip distance. Employees, who work for different employers, as well as non-employed people, are included

within this definition as long as they are in the vehicle for ~~the majority~~ 51% of the total trip distance.

~~48.~~39. VEHICLE TRIP is ~~based on~~ determined by the means of transportation used for the greatest distance of an employee's home-to-work commute trip for employees who begin work during the peak period. Each vehicle trip to the worksite shall be calculated as follows:

Single-occupant vehicle = 1

Carpool = 1 divided by number of people in carpool

Vanpool = 1 divided by number of people in vanpool

Motorcycle, moped, motorized scooter, motor bike = 1 divided by number of people on bike

Public transit = 0

Bus pool = 0

Bicycle = 0

Walking and other non-motorized transportation modes = 0

Non-commuting = 0

Telecommuting = 0 on days employee is telecommuting for the entire day

Compressed Workweek = 0 on employee's compressed day(s) off

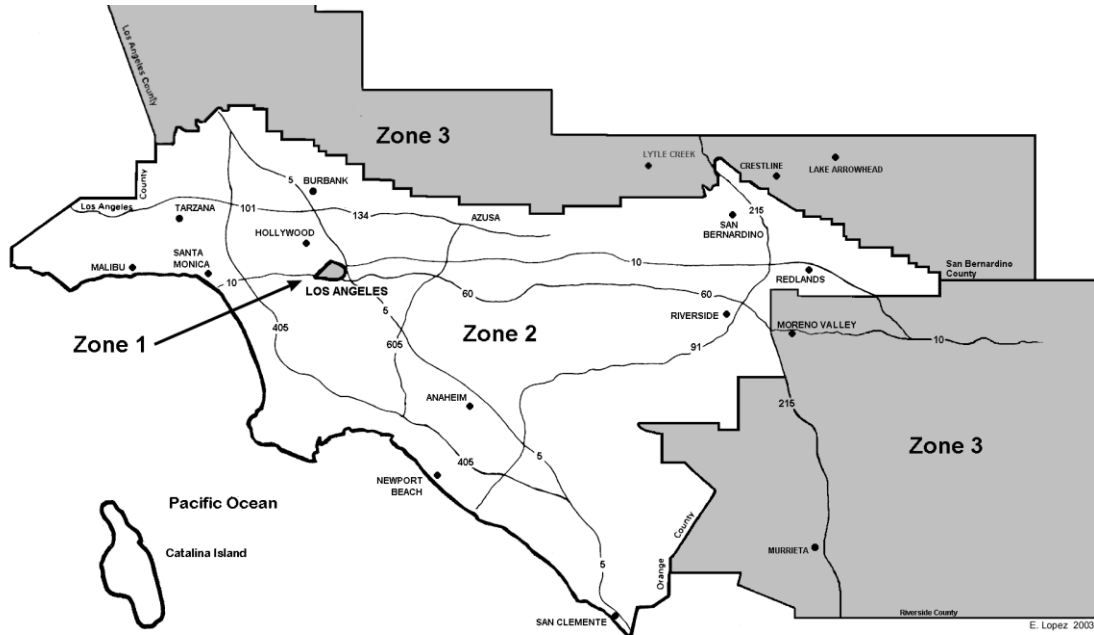
Zero-emission vehicles = 0

~~49.~~40. VOLUNTEER means any person(s) at a worksite who, of their own free will, provides goods or services, without ~~any~~ financial gain.

~~50.~~41. WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2 mile radius and are in the same AVR Performance Zone.

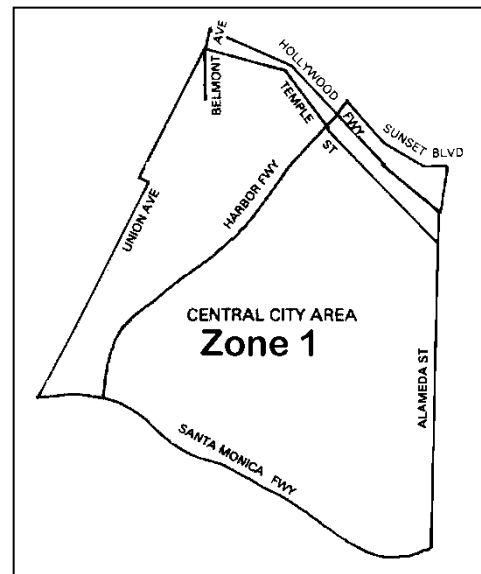
~~51.~~42. WORKSITE EMPLOYEE THRESHOLD means 250 employees employed at a single worksite for the prior consecutive six month period calculated as a monthly average, and 33 or more employees scheduled to report to work during the window any one day during the prior consecutive 90 days.

VIII. ATTACHMENT I



AVR PERFORMANCE ZONES

- A worksite's AVR Performance Zone depends on its location.
- District's Source/Receptor Areas are shown in Attachment 3 of Rule 701 - Air Pollution Emergency Contingency Actions.
- **Zone 1** is the Central City Area of Downtown Los Angeles within the SCAQMD's Source/Receptor Area 1.
- **Zone 2** corresponds to the SCAQMD's Source/Receptor Areas 2 through 12, 16 through 23, and 32 through 35, excluding the Zone 1 - Central City Area.
- **Zone 3** corresponds to the SCAQMD's Source/Receptor Areas 13, 15, 24 through 31, and 36 through 38.



ATTACHMENT G

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Staff Report

Proposed Amendments to Rule 2202 Employee Commute Reduction Program Guidelines (ECRP)

May 1, 2015

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LIST OF ACRONYMS AND ABBREVIATIONS

AQIP	Air Quality Investment Program
AQMP	Air Quality Management Plan
AVR	Average Vehicle Ridership
BACT	Best Available Control Technology
CARB (or ARB)	California Air Resources Board
CO	Carbon Monoxide
ECRP	Employee Commute Reduction Program
EMFAC	EMission FACTor mobile source model
ERC	Emission Reduction Credits
ERS	Emission Reduction Strategy
LEV	Low Emission Vehicles
MSERC	Mobile Source Emission Reduction Credit
NMOG	Non-Methane Organic Gases
NO _x	Nitrogen Oxides
PHEV	Plug-in Hybrid Electric Vehicle
PM	Particulate Matter
PZEV	Partial Zero Emission Vehicle
ROG	Reactive Organic Gases
SCAB	South Coast Air Basin
SCAQMD	South Coast Air Quality Management District
SULEV	Super Ultra Low Emission Vehicles
ULEV	Ultra Low Emission Vehicles
VOC	Volatile Organic Compound
ZEV	Zero Emission Vehicles

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EXECUTIVE SUMMARY

The South Coast Air Quality Management District (SCAQMD) is proposing amendments to the Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines. The amendments include administrative language and document restructuring to provide clarity and guidance to the regulated community. Staff is proposing that the Employer Clean Fleet Purchase/Lease Program and Mobile Source Diesel PM/NO_x Emission Minimization Program be removed as they have been or soon will be overtaken by state regulations that specifically address the original intent of these program elements. Staff is proposing the inclusion of a High AVR and AVR Improvement submittals as additional plan submittal types to incentivize worksite AVR improvements and streamline submittals of the ECRP as a rule compliance option. Included in this report is also a review of the Rule 2202 Parking Cash-out Program.

BACKGROUND

Rule 2202 replaced Rules 1501 - Work Trip Reduction Plans and 1501.1 - Alternatives to Work Trip Reduction Plans and has been amended several times in the years since. In 1987, Regulation XV was adopted which required trip reduction plans for employers with 100 or more employees. Rule 1501 was amended in 1993 and Rule 1501.1 was adopted in 1995, to comply with federal and state requirements for extreme non-attainment areas. In 1995, Rule 2202 was adopted to respond to state legislation prohibiting mandatory trip reduction plans. Rule 2202 provided worksites of 100 or more employees a menu of emission reduction options to meet an emission reduction target for their worksite. The passage of SB 836 in 1996 directed SCAQMD to raise the employee threshold level from 100 to 250 employees, while SB 432 permanently exempted worksites with fewer than 250 employees from complying with the rule.

The rule has provided members of the regulated community with a menu of flexible and cost effective emission reduction options from which they can choose to implement and meet the emission reduction targets for their worksites. Rule 2202 continues to allow employers the option of implementing a traditional trip reduction program as a means of complying with the rule. Rule 2202 - On-Road Motor Vehicle Mitigation Options (Rule 2202) requires any employer who employs 250 or more employees at a work site to develop and implement an emission reduction program to reduce emissions related to employee commutes (between 6:00 AM and 10:00 AM). The rule provides employers with a menu of options to reduce these mobile source emissions.

An employer can choose to reduce their mobile source emissions through the Emission Reduction Strategy (ERS) or Air Quality Investment Program (AQIP) options or, alternatively, an employer may elect to implement an Employee Commute Reduction Program (ECRP), otherwise known as a rideshare program. The ECRP focuses on reducing work-related vehicle trips and vehicle miles traveled to a worksite with the

purpose of achieving an average vehicle ridership (AVR) target for an employer's worksite. Employers who voluntarily choose to implement an ECRP are required to submit an annual program plan that demonstrates a good faith effort toward achieving their worksite AVR target. Employers implementing an ECRP must do so in conformance with the ECRP Guidelines. The ECRP Guidelines provide the basis for the implementation of this rule option and have been in effect since the initial adoption of Rule 2202 in 1995. The ECRP Guidelines lead employers through the process of meeting rule requirements and the developments of a trip reduction program.

In June 2014, staff amended Rule 2202 and the rule Implementation Guidelines to address issues with the credit market as it is used under Rule 2202. During the public meetings, members of the regulated community requested that the ECRP Guidelines be reviewed to consider methods to incentivize employers that demonstrate improvements in the worksite AVR and to streamline the ECRP submittal process. The Governing Board directed staff, as part of its Rule 2202 amendment adoption resolution, to review the documents for potential amendment at a later time.

Proposal

Staff is proposing a set of amendments to the guidelines to support employers' implementation of the ECRP compliance option. The proposed amendments are to clarify existing language, streamline the ECRP submittal process, and incentivize employer good faith efforts toward meeting the worksite AVR target.

Staff is proposing the inclusion of High AVR and AVR Improvement Programs as additional plan submittal types to incentivize improvements to worksite AVRs. Employers may submit a High AVR Program submittal when their worksite has met or exceeded the AVR target. Employers eligible for the High AVR Program will receive a reduction in filing fees (30% - 47%) and can submit a streamlined version of the annual plan. Alternatively, an AVR Improvement Program may be submitted if the worksite has improved their AVR more than 0.05 or has an improvement of 0.01 or better for three consecutive years. Employers qualifying for the AVR Improvement Program will receive a 20% reduction in filing fees and submit a streamlined plan submittal. These proposed programs are intended to incentivize improvements to worksite AVR by streamlining annual plan submittals at a discounted fee.

Staff is also proposing that the Employer Clean Fleet Purchase/Lease Program and Mobile Source Diesel PM/NOx Emission Minimization Program be removed. CARB has adopted off-road regulations that seek to reduce emission from existing off-road diesel vehicle fleets and emission certification standards for all new off-road diesel engines. These requirements will address a larger population of vehicles and are more stringent than the existing Rule 2202 ECRP requirements. Additionally, the vehicle fleet emission standards of LEV II and LEV III, as adopted by CARB, will increase the availability of

cleaner vehicles than as compared to what would be required under the ECRP clean fleet requirements. The Clean Fleet Program, adopted in 2004, was intended to accelerate the deployment of lower emission vehicle engines. The implementation of the LEV II and LEV III as well as CARB's off-road diesel regulations will achieve the original intent of Rule 2202 ECRP program elements. As a result, removing these program elements would not result in emission reductions foregone; rather, it will reduce the administrative burden for the employers subject to these provisions in Rule 2202.

PROPOSED AMENDMENTS

Employer Clean Fleet Purchase/Lease Program

Currently, employers that have not met the worksite AVR target requirement and own or lease four (4) or more vehicles are required to incorporate vehicles in their fleet that meet certain emission standards (ECRP Guidelines: *V.C. Employer Clean Fleet Purchase/Lease Program*). The vehicles must be at least ultra-low emission vehicles (ULEV) for light-duty passenger vehicles and trucks, and super ultra-low emission vehicles (SULEV) for medium-duty vehicles, as certified by CARB. The ECRP Guidelines require employers, when submitting their annual worksite program, to include an inventory which describes the number and type of vehicles in the existing operating fleet. Additionally, employers are also required to submit a detailed list of the vehicles being acquired which includes information such as make, model, fuel type, engine family number, and start of service date. This requirement began implementation in February 2004 and since that time an average of 166 light-duty vehicles per year have been affected at 48 different worksites.

The Employer Clean Fleet Purchase/Lease Program was adopted as part of the ECRP Guidelines during the 2004 amendments with the intent to encourage consumer choice of cleaner vehicles at the time of vehicle purchase or lease. The requirements for the cleaner vehicles was based on the tailpipe emission standards described in Rule 1191 - Clean On-Road Light- and Medium-Duty Public Fleet Vehicles where light and medium duty passenger vehicles were required to meet ULEV and medium duty vehicles were required to meet the SULEV emission standards. However, since the inclusion of the Employer Clean Fleet Purchase/Lease Program in the 2004 ECRP Guidelines, the typical vehicle acquired for fleets meets guideline requirements as these vehicles have become more readily available as a result of the CARB vehicle emission standards.

At the time of the 2004 amendment, the tailpipe emission standard for vehicles was the Low Emission Vehicle II (LEV II) standard, formally adopted by CARB in 1999 (13 CCR §1600 *et seq.*). LEV II required manufactures to phase-in beginning in 2004 to full implementation in 2010. Under the LEV II standard the emission levels were significantly reduced such that light-duty truck and medium-duty vehicles categories of below 8,500 gross vehicle weight had to meet passenger car requirements. The ULEV

passenger vehicle emission requirements changed from 0.2 to 0.05 gram/mile of NO_x. More recently, the LEV III emission standard was adopted by CARB in 2012, which is to be phased-in for vehicle model years 2015 through 2025(13 CCR §1600 *et seq.*). The LEV III standard introduced another significant reduction in emission levels, introducing a NMOG+NO_x standard. This represents a LEV II to LEV III change, at full implementation, for ULEV passenger vehicles emission of 0.09 to 0.03 gram/mile NMOG+NO_x.

In 2004, the intent was to accelerate the deployment of lower emission vehicles through the implementation of this requirement. The Clean Fleet Program, as adopted, is consistent with the tailpipe emission standards as set forth in Rule 1191 - Clean On-Road Light- and Medium-Duty Public Fleet Vehicles. Since the 2004 ECRP Guidelines were adopted, the availability of light duty ULEV vehicles has significantly increased. As shown in Table 1 below, the number of available certified engine families or test groups that meet the ULEV emission standard or better in 2014 has doubled in comparison to 2004. Furthermore, the adoption of LEV III standards should significantly increase the availability of ULEV and SULEV vehicles.

Table 1. Passenger and Light Duty Truck CARB Certifications

CARB Certification	2004 Available	%	2014 Available	%
LEV	154	51%	59	16%
ULEV	123	41%	241	65%
SULEV	1	0.3%	18	5%
PZEV ⁽¹⁾	18	6%	37	10%
ZEV ⁽²⁾	4	1%	18	5%
Total	300		373	

1. Partial Zero Emission Vehicle

2. Zero Emission Vehicle

Given the full implementation of LEV II and the phase-in of LEV III, which will significantly increase the availability of the type of fleet vehicles that will meet the 2004 guideline standard, Staff is proposing that the Employer Clean Fleet Vehicle Purchase/Lease Program be removed from the ECRP Guidelines. Although many employers may not be required to implement this requirement within Rule 2202, all employers will continue to be subject to compliance with any applicable federal, state, local, or SCAQMD regulatory requirements for fleet vehicles. As a matter of course, employers acquire the type of passenger vehicles into their fleets that will meet the ULEV standard or better. Because of this and the phase-in of more stringent emission standards under LEV III, the removal of this requirement will not have an impact on the program's emission reductions and will reduce the administrative burden for employers submitting an ECRP to demonstrate compliance with this requirement.

Mobile Source Diesel PM/NOx Emission Minimization Program

Employers with 1,000 or more peak window employees implementing an ECRP but not meeting their AVR target, are required to complete a mobile source diesel PM/NOx emission minimization plan. (ECRP Guidelines: *V.D. Mobile Source Diesel PM/NOx Emission Minimization*) This requirement applies to off-road self-propelled diesel-fueled equipment that cannot be registered and licensed to drive on-road (e.g., tractors, forklifts, riding lawnmowers, yard hostlers, etc.). Every three years the employer submits an equipment inventory that includes a list of the self-propelled diesel-fueled equipment, fuel usage for each piece of equipment, and use of control technologies if applicable, at the worksite.

The equipment inventory is reviewed by Staff to determine technical feasibility and the implementation cost of adding control equipment or vehicle replacement. This assessment is done in consultation with the employer. When the plan has been approved the employer is required to implement the feasible diesel emission control technologies which can include replacement, repowering, or the use of control technologies. Implementation of control technologies may be considered as infeasible under certain circumstances such as age of equipment, the use of control equipment would be unsafe, no approved equipment is available, or implementation exceeds the capital cost limits described in the guidelines. The diesel minimization requirement was adopted as part of the ECRP Guidelines during the 2004 amendments and implementation began in 2005. The intent was to accelerate the control of off-road mobile diesel equipment emissions.

In July 2007, CARB approved the In-Use Off-Road Diesel Vehicle regulation to reduce emissions from existing off-road diesel equipment (13 CCR §2449 *et seq.*). The regulation requires off-road fleets to modernize and add retrofit technologies. It imposed limits on idling beginning in 2008, and in 2010 began phase-in of requirements to clean-up fleets by eliminating older engines and install exhaust retrofits. The overall purpose of the CARB regulation is to reduce NOx and PM emissions from off-road diesel equipment. Effective 2008, engine idling was to be limited to 5 minutes and high emission equipment (pre-1996) could not be purchased. Full implementation beginning in 2014, 2017, and 2019 for large, medium, and small equipment respectively will require meeting fleet emission targets through equipment turnover or application of best available control technologies (BACT) by installation of control equipment, equipment repowering, or replacement. Furthermore, CARB adopted in December 2004, the Off-Road Compression-Ignition Engines and Equipment Tier 4 emission standard (13 CCR §2420 *et seq.*). The Tier 4 standard requires new off-road diesel engines to meet emission standards 50-96% lower than the existing generation of diesel engines beginning in 2008. The Tier 4 diesel engine standard requirements should be fully implemented by 2015.

Sixty-five of the 494 employers submitting ECRPs, currently report having 1,000 or more peak window employees. Since implementation, a total of 26 different employers have submitted an off-road mobile diesel equipment inventory. As of December 2014, 13 of the 26 employers have submitted equipment inventories where there may be additional opportunities to mitigate emissions. Five (5) employers have submitted inventories where no further mitigation is possible because the equipment has been removed, repowered, replaced, all feasible controls have been installed, or it is infeasible to install controls on the remaining equipment. The remaining 8 employers, are no longer submitting equipment inventories due to changes in compliance program submittal option, meeting the worksite AVR target, or the window employee number has fallen below 1,000.

As a result, all of the participating employers have had their diesel equipment reviewed at least twice and most, if not all, of the available mitigation measures pursuant to the ECRP Guidelines have been applied. Staff is recommending to remove this plan requirement as the adoption of CARB off-road diesel equipment regulation at full implementation applies a more stringent requirement and is applicable to all off-road mobile diesel equipment. Furthermore, the CARB regulation is applicable to all Rule 2202 employers and is not limited to the employers who submit an ECRP and have 1,000 or more window employees. Although the ECRP requirements have similar goals to the CARB regulation, it is not as stringent since CARB's regulation includes an idling limit component and specific emission limits or control requirements. The SCAQMD's ECRP off-road diesel requirements are limited in scope when compared to the state-wide program since they are applicable to a much smaller subset of diesel equipment. The ECRP requirements are superseded by the CARB regulation and the removal of this program requirement will have no effect on the control of emissions from off-road diesel equipment. Although employers may not be required to implement this ECRP requirement, all employers will continue to be subject to compliance with any applicable federal, state, local, or SCAQMD regulatory requirements regarding off-road diesel equipment.

High AVR and AVR Improvement Submittals

Employers who have met or exceeded the worksite AVR target can, in accordance with the ECRP Guidelines, request a High AVR No Fault Inspection (ECRP Guidelines: *I.G. High No Fault Inspection*). These inspections are required to be scheduled at a worksite two months prior to their compliance plan submittal date to verify the AVR survey data results. Once the data has been verified, employers receive a reduction in filing fees and are not required to submit the portion of the compliance forms describing their good faith effort determination elements. In response to comments received to consider methods to simplify ECRP submittals, Staff is proposing to remove the requirement for a worksite inspection, and to specify that the submittal of the good faith effort determination elements documentation for High AVR Program submittals is not required if there is no

change from the previously approved plan. The employer may elect to amend the plan if changes are sought.

Currently, less than 10 employers submit the High AVR No Fault Inspection program. However, approximately 115 employers could potentially submit a High AVR submittal. As a result, staff believes that by removing the inspection requirement and streamlining the plan submittal, the proposed amendment could incentivize these high AVR employers to join the program and encourage additional employers to meet a higher AVR target. Despite the removal of the inspection requirement, worksites will still be subject to SCAQMD's overall inspection for Rule 2202 and compliance verification.

Along these same lines, Staff is proposing an AVR Improvement Program submittal. Employers are currently required to demonstrate good faith effort toward meeting the worksite AVR. One measure of good faith effort is the increase in the AVR when compared to the previous year's ECRP submittal. Staff's proposal is to reward employers having an AVR improvement over a consecutive three year period by not requiring the submittal of the good faith effort determination elements and reducing the per worksite filing fee by 20%.

To qualify employers are to have an AVR improvement of 0.01 or greater for each of the two previous consecutive years and the year that is being submitted. AVR improvement of 0.01 is consistent with the criteria currently used by Staff when evaluating ECRP submittals to determine the demonstration of a good faith effort. However, if the AVR has an improvement of 0.05 when compared to the immediate previous year the employer may also submit an AVR Improvement Program. An AVR improvement of 0.05 can represent a significant effort on the part of an employer. Staff recognizes the level of effort for such an improvement and believes that the AVR increase should be appropriately incentivized. An AVR change of 0.01 over each of the 3 years would reward employers who have continued program improvement and demonstrate a good faith effort toward achieving their AVR target.

For example, if Employer A is submitting their ECRP in 2015 and has an AVR improvement of 0.01 every year when compared to the previous two years then they would be eligible for the AVR Improvement. Employer B has an improvement of 0.01 when compared to the previous year, but there was a decline when compared to the submittal two years ago, and therefore Employer B would not be eligible. However, employer C has an increase of 0.05 over the previous year submittal so they would be eligible regardless of any improvements in 2012 and 2013. When an employer has a non-ECRP program submittal option, they cannot use it to demonstrate AVR improvement for any prior year for the AVR Improvement Program, as shown by Employer D. Examples of how the AVR Improvement Program would be applied is illustrated in Table 2 below.

Table 2. AVR Improvement Program Submittal Examples

Plan Submittal Year AVR	2012	2013	2014	2015	AVR Improvement
Employer A	1.30	1.31	1.32	1.33	Yes
Employer B	1.30	1.31	1.30	1.31	No
Employer C	1.30	1.30	1.30	1.35	Yes
Employer D	1.29	1.30	AQIP submittal	1.35	No

There are approximately 115 worksites that could have submitted a High AVR Program in 2014. Under the proposed AVR Improvement Program, approximately 77 worksites that have improved their AVR by 0.05 or better in 2014 and could qualify for this program. Additionally, there are 106 worksites that had ongoing improvements in their AVRs of 0.01 or greater, for three consecutive years that could submit an AVR Improvement Program. The number of employers who can currently take advantage of both the High AVR and the AVR Improvement Program could result in a reduction of approximately 11% in annual filing fees received. The number of employees that are potentially affected are summarized in Table 3. The purpose of these proposed provisions are to incentivize employers to increase their AVR through the reduction of filing fees and by reducing the administrative burden.

Table 3. Effect of High AVR and AVR Improvement Programs

Program	Worksites
ECRP	494
High AVR ¹	115
AVR Improvement (≥0.05 change) ²	77
AVR Improvement (≥0.01 change) ³	106

1. Meets or exceeds worksite AVR target

2. Does not include worksites with AVR improvement less than 0.05

3. Does not include worksites that met their AVR target or have no change in AVR

Parking Cash-Out Program

Parking cash-out, adopted in 1992 and codified in Health and Safety Code §43845, requires employers with 50 or more employees to provide a cash allowance to their employees in lieu of a parking space that the employer would otherwise pay to provide

the employee with a parking space. Parking cash-out applies to worksites where the employer leases employee parking, the parking lease is not part of or bundled in the building lease, and the employer is able to reduce the number of parking spaces without penalty. CARB is responsible for enforcement of this regulation, however, Senate Bill 728 (Lowenthal), adopted October 11, 2009, allows air districts or local governments the option to enforce parking cash-out via a rule or ordinance, a penalty, or other mechanism.

The October 2011, amendments to the ECRP included the provision that employers who elect to participate in the ECRP, whose worksite meets the requirements of the Health and Safety Code §43845, who have not achieved the AVR target, and whose AVR fails to show an overall improvement from the previous plan submittal, be required to incorporate a Parking Cash-out Program in their annual ECRP submittal. Additional language was included to make it clear that although certain employers may not be required to implement parking cash-out to meet the ECRP standards, all employers who are subject to the provisions of the Health and Safety Code (§43845) must still comply with their existing legal obligations. At that time, the Governing Board approved that the Rule 2202 Parking Cash-out requirement remain in effect until January 1, 2016 and, at that time, Staff would evaluate the effectiveness of the parking cash-out program and come back to the Board with a recommendation on whether the program should be continued. The inclusion of Parking Cash-out discussion in this Staff Report is to report on the current status of the Rule 2202 Parking Cash-out Program.

In accordance with the ECRP Guidelines, four worksites reported implementing a parking cash-out program in the first year. In 2013, three of these worksites were no longer required to implement parking cash-out and one new worksite was added. At the end of 2014, one worksite was no longer subject to this requirement, one was added and one continued to be required to implement parking cash-out. The four worksites that became exempt from this requirement were a result of increases in AVR achieved by adjusting their AVR survey techniques or improving the worksite incentives. However, two of these four worksites subsequently reported that the leased parking could not be unbundled from the existing lease agreement. As of December 2014 two worksites, in accordance with the ECRP Guidelines, are implementing a parking cash-out program. Information from the last three years of parking cash-out implementation is summarized in Table 4.

Table 4. Parking Cash-out Summary

Year	ECRP Worksites	Worksites with Leased Parking	Worksites Subject to Guideline Provisions ¹	Parking Cash-out Exempt ²	Parking Cash-out Implemented
2012	530	76	30	26	4
2013	498	74	23	21	2
2014	494	75	24	22	2

3. Worksite AVR is below target and has shown no improvement

4. Parking cannot be reduced without penalty or un-bundled from lease

While all 494 worksites submitting an ECRP are required to complete the parking cash-out applicability documentation, only 5 different worksites since implementation, less than 1% of the ECRP submittals, have reported a Rule 2202 qualified parking cash-out program. Although certain employers may not be required to include parking cash-out to meet the ECRP requirements, all employers who are subject to the provisions of the Health and Safety Code (§43845) still must comply with their existing legal obligations under state law. The inclusion here of the parking cash-out information is to report on the current status of the Rule 2202 Parking Cash-out Program, which is more limited than state law. Staff will continue to evaluate the effectiveness of the Parking Cash-out Program and provide Staff's recommendation to the Board prior to the end of the year, in accordance with the October 7, 2011 Board adopted resolution and the ECRP guidelines.

Administrative Amendments

Staff is proposing a number of administrative amendments to the guidelines to provide additional clarity and guidance to the regulated community. The administrative language amendments are outlined below.

- Program Types and Features – include text to further describe program submittal requirements
- Add Failure to Notify flowchart – an explanatory flowchart is included that outlines the employers responsibility for program notification and the potential compliance consequences in accordance with Rule 308 – On-road Motor Vehicle Mitigation Options Fees
- Remove “Annual Program” section – the information is included in previous sections of the guidelines
- Program Administration – clarification of when an approved ECRP is to begin implementation and the addition of examples of the type of records that should be maintained for recordkeeping requirements
- Recordkeeping – record retention requirement for AVR Improvement Programs where the retention time in some instances may be longer than three years

- Compliance – restructured text to more clearly outline what could constitute a failure to comply
- AVR Adjustments – inclusion of the types of vehicles that can be counted as zero emission vehicles and the adjustment that can be applied when calculating AVR
- Alternative AVR Data Collection – removed language from one section as it is more clearly outlined in the section that follows the introductory paragraph
- Employee Transportation Coordinator – move text addressing the absence of an ETC to this section as it directly relates to this requirement’s description
- Remove Training Providers section – if the required training program is contracted the terms and conditions would be included in a contract and will afford the SCAQMD additional flexibility in providing this service alternative
- Relocation – add clarification regarding rule applicability when an employer relocates their employees over an extended period of time
- Extensions – add examples of reasons that an extension for a program submittal may be granted
- Declared Bankruptcy – include language to clarify administrative actions to be taken when a bankruptcy waiver expires

Summary of Proposed ECRP Guideline Amendments

- Include High AVR and AVR Improvement Program plan submittals
- Remove Employer Clean Fleet Purchase/Lease Program
- Remove Mobile Source Diesel PM/NOx Emission Minimization Program
- Revise Good Faith Effort Determination Elements strategies to clarify language and update the strategies
- Other administrative amendments to the guidelines to provide additional clarity and guidance to the regulated community

IMPACT ASSESSMENT

A. Affected Facilities

As of December 2014, there were approximately 494 worksites that submitted an ECRP, which is 37% of the worksites complying with Rule 2202. Employers may choose to voluntarily implement an ECRP rather than submit an ERS or an AQIP. By doing so employers are required to demonstrate a good faith effort toward meeting the worksite AVR target in conformance with the ECRP Guidelines. Employers submitting an ECRP are not concentrated in a particular business or industry. The types of worksites that are affected by the rule are summarized in Table 5 below.

Table 5. ECRP Worksite Industry Groups

Industry Group (based on SCAQMD / NAICS*)	Number of Worksite
Utilities	6
Manufacturing	62
Wholesale Trade	16
Retail Trade	37
Transportation and Warehousing	20
Information	14
Finance and Insurance	32
Real Estate and Rental and Leasing	3
Professional, Scientific, and Technical Services	18
Management of Companies and Enterprises	2
Administrative and Support and Waste Management and Remediation Services	5
Educational Services	46
Health Care and Social Assistance	58
Arts, Entertainment, and Recreation	8
Accommodation and Food Services	26
Other Services (except Public Administration)	9
Public Administration	132
Total	494

* North American Industry Classification System (NAICS)

There are potentially 115 worksites that could submit a High AVR Program and as a result could qualify for the existing discounted submittal fees. Under the proposed AVR Improvement Program there are approximately 77 worksites that have AVR improvements of 0.05 or better that could potentially qualify for this program and the proposed discounted submittal fees. Additionally, there are 106 worksites that have ongoing improvements in their AVRs of 0.01 or greater that could submit an AVR Improvement Program plan. As proposed, employers submitting a High AVR or AVR Improvement Program plan will not be required to include in the annual program a description of the rideshare strategies to be implemented. Employers who take advantage of the High AVR and AVR Improvement will benefit from the proposed amendments due to reduced filing fees and streamlined plan submittal.

The proposed amendments will further benefit employers through the inclusion of a streamlined plan submittal which proposes to remove the mobile source diesel minimization plan and the employer clean fleet vehicle program. There were 5 worksites that submitted clean fleet vehicle programs in 2014 which affected the acquisition of 8 different vehicles. The diesel minimization applies to worksites with 1,000 or more peak window employees at a worksite which results in 13 worksites that currently continue to submit plans. At the initial implementation in 2004, 26 different employers submitted diesel minimization plans. The decrease in submittals can be attributed to employers

changing Rule 2202 compliance options, no longer having mobile diesel equipment, or the peak window employee number dropping below 1,000.

The proposed Guidelines amendments will not result in an increase in the employee AVR targets or impose any additional requirements on employers submitting ECRPs. Employers always have the option of switching between the different compliance options. However, the choice between the different options is dependent on many different factors such as relative cost, changes in employee numbers, or other employer operational changes. The proposal will afford employers additional incentives to comply with Rule 2202 requirements through the implementation of the ECRP.

B. Rule Adoption Relative to the Cost Effectiveness Schedule

On October 14, 1994, the Governing Board adopted a resolution requiring staff to consider rules being proposed for adoption in order of cost-effectiveness. Cost-effectiveness is defined as the cost to comply with the new regulatory requirements, expressed in terms of dollars per ton of pollutant reduced. The California Health and Safety Code §40703 requires a consideration of its cost effectiveness of control measures in its Air Quality Management Plan (AQMP). The AQMP ranked, in order of cost-effectiveness, all of the proposed control measures for which costs were quantified, with the most cost-effective measures to be considered first. Since the proposed amendment is not based on an AQMP control measure, consideration in order of cost-effectiveness is not required.

Socioeconomic Impact Analysis

There is no change in emission or AVR targets such that further reductions attributable to the proposed amendments are expected. Furthermore, the proposed amendments are expected to result in a cost savings because of reduce filing fees, reduced program implementation cost, and plan submittal streamlining. California Health and Safety Code §40440.8 requires a socioeconomic impact assessment for rules that would significantly affect air quality. The amendments are expected to be a savings for any employer that is qualified to participate. In summary, the proposed amendments do not affect the emission limitations or significantly affect air quality and the socioeconomic impact assessment is not applicable for this proposal.

INCREMENTAL COST EFFECTIVENESS

Health and Safety Code §40920.6 requires an incremental cost-effectiveness analysis for rule amendments that implement BARCT or feasible measures. Since these amendments will reduce costs, incremental cost-effectiveness analysis does not apply. As a result, §40920.6 is inapplicable.

LEGISLATIVE AUTHORITY

The California Legislature created the SCAQMD in 1977 (The Lewis-Presley Air Quality Management Act, Health and Safety Code §40400 et seq.) as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin). By statute, the SCAQMD is required to adopt an Air Quality Management Plan (AQMP) demonstrating compliance with all state and federal ambient air quality standards for the Basin [California Health and Safety Code §40460(a)]. Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP [California Health and Safety Code §40440(a)]. The emission reductions from Rule 2202 are included in the AQMP and contribute to demonstrating compliance with state and federal ambient air quality standards. As such, the proposed Rule 2202 Employee Commute Reduction Program Guideline amendments will be consistent with the methodologies used in the AQMP.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA) ANALYSIS

Pursuant to the California Environmental Quality Act (CEQA) and SCAQMD Rule 110, the SCAQMD has prepared the appropriate CEQA document to analyze any potential adverse environmental impacts associated with Proposed Amended Rule 2202 Employee Commute Reduction Program (ECRP) Guidelines is attached.

COMPARATIVE ANALYSIS

Health and Safety Code Section 40727.2 requires a comparison of the proposed amended rule with existing regulations imposed on the same equipment unless the proposed amendment neither imposes a new emission limit nor makes an existing limit more stringent. The proposed amendment does neither.

DRAFT FINDINGS UNDER THE CALIFORNIA HEALTH AND SAFETY CODE

Before adopting, amending, or repealing a rule, the California Health and Safety Code requires the SCAQMD to adopt written findings of necessity, authority, clarity, consistency, non-duplication, and reference, as defined in Section 40727. The draft findings are as follows:

Necessity - The SCAQMD Governing Board has determined that a need exists to amend the ECRP Guidance for Rule 2202 – On-Road Motor Vehicle Mitigation Options in order to be consistent with current State and SCAQMD emission reductions estimates and to increase the effectiveness of the program.

Authority - The SCAQMD Governing Board obtains its authority to adopt, amend, or repeal rules and regulations from the California Health and Safety Code Sections 40000, 40001, 40440, 40441, 40463, 40702, and 40725 through 40728.

Clarity - The SCAQMD Governing Board has determined that the proposed amendment to the ECRP Guidance for Rule 2202 is written or displayed so that its meaning can be easily understood by persons directly affected by it.

Consistency - The SCAQMD Governing Board has determined that Proposed Amended ECRP Guidance for Rule 2202 is in harmony with, and not in conflict with or contradictory to, existing statutes, court decisions, federal or state regulations.

Non-Duplication - The SCAQMD Governing Board has determined that the proposed amendment to the ECRP Guidance for Rule 2202 does not impose the same requirements as any existing state or federal regulations, and the proposed amended rule is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD.

Reference - In adopting this ECRP Guidance for regulation, the SCAQMD Governing Board references the following statutes which the SCAQMD hereby implements, interprets or makes specific: California Health and Safety Code Sections 40001, 40440(a), 40440(c), and the Federal Clean Air Act Section 182(d)(1)(B) (equivalent emission reduction for AVR requirements).

PUBLIC COMMENTS AND RESPONSES

This section summarizes the responses to comments received during the Stakeholder Working Group Meetings on August 21, 2014 and February 19, 2015; and the Public Workshop Meeting held on March 4, 2015.

1. Comment

While supporting the proposed amendment to modify the High AVR Program, commenter suggests that the associated submittal fees be lower than the currently required submittal fee which is the same as ERS, because the inspection component of the program will no longer be required. The High AVR No Fault Inspection Program at one time did not require a submittal fee. A filing fee lower than ERS or completely waived could further incentivize AVR improvements through this program.

Response

Staff has reviewed staff time required to evaluate a High AVR Program submittal and the fee needed to recover program cost. Staff time involved in evaluating High AVR Programs and ensuring compliance with the Rule 2202 program are

comparable with the ERS program submittal. The submittal fee was instituted for the High AVR No Fault program in 2004, which did not include inspection cost, to provide for nominal cost recovery for a program that was impacting agency resources. The required on-site pre-inspection was considered to be a possible barrier to participation in the High AVR Program. The proposal will reduce an administrative burden for employers and streamline plan submittals for qualifying employers. Staff will evaluate the High AVR Program and the AVR Improvement Program performance over time and determine if a fee adjustment is warranted.

2. Comment

Propose that the filing fee for any ECRP plan submittal should be equal to the current ERS filing fee, and that both the proposed the High AVR Program and the AVR Improvement Program submittal should be discounted 20% below the ERS filing fee amount which will increase ECRP participation.

Response

The fee structure in Rule 2202 is designed for program cost recovery. It is not intended to be used as an incentive to promote one rule option over another. A worksite, submitting an ECRP, is not specifically required to achieve the AVR target but to demonstrate progress in achieving the target through the good faith determination effort strategies. ERS submittals are required to meet the AVR target through trip reductions, surrendering emission reduction credit offset or a combination of different trip reduction methods.

The requested reductions of fees to be 20% lower than the current ERS fees will result in a fee reduction from the current fees of 44% for worksites with less than 500 employees, or 58% for worksites with 500 or more employees. The proposed fees already represent a fee reduction of 30% for worksites with less than 500 employees, or 47% for worksites with 500 or more employees.

Staff has reviewed the tasks and cost associated with the evaluation of the different types of ECRP submittals and has determined that the existing and proposed submittal fees will provide for recovery of the direct program cost. Furthermore, staff does not believe that additional discounting will likely result in a significant increase in the number of employers participating in ECRP.

3. Comment

Request that the electric vehicle (EV) line on the employee AVR commute survey form be restated to clarify the use of plug-in hybrid electric vehicles (PHEV) and to move the line to the top of the form to better capture that information.

Response

The format of the employee survey form used for AVR calculations is not specifically defined by the Guidelines and is not part of the proposed amendments. The proposed amendments include additional information that clarifies how EVs and PHEVs can be used in calculating the worksite AVR. However, Staff will consider the suggestion and will revise the survey form as applicable. Staff will make available a draft for review by the regulated community prior to publication.

4. Comment

The worksite relocation section of the Guidelines is not clear on what happens when an employer moves employees from one worksite to another in phases or over a period of time.

Response

Employers relocating employees from one worksite to another over a period of time are still subject to the rule and applicability requirements in the Guidelines. If a worksite at any time has more than 250 employees over a consecutive six-month period calculated as a monthly average it will be subject to the requirements pursuant to Rule 2202 (b) Applicability. It is possible under this scenario that both worksites could be subject to Rule 2202 and the employer then may be required to temporarily submit a compliance plan for both worksites. Clarification language was added to section *IV.D. Relocation* of the Guidelines.

5. Comment

Are worksites still subject to other regulatory requirements if the Employer Clean Fleet Purchase/Lease Program and the Mobile Source Diesel PM/NO_x Emission Minimization Program are no longer required by Rule 2202?

Response

Regardless of the inclusion or exclusion of the Clean Fleet Program or the Diesel Minimization Program provisions in the ECRP Guidelines, all employers still have a legal obligation to comply with any existing federal, state, local, and SCAQMD rules or regulations regarding fleet vehicles and off-road diesel equipment.

6. Comment

Request that AVR surveys not be required every year for worksites that have met or exceeded the AVR target especially for employers with a large employee population. Surveying employees can be resource intensive. There are other programs that allow biennial AVR surveys.

Response

The annual reporting of a worksite AVR is an important performance indicator that is used to demonstrate on-going progress toward meeting AVR targets and the region's clean air goals. The calculated AVR is used to determine emission reductions

achieved from the reduction of employee commutes from home to work. Rule 2202 is considered to be an emission equivalency rule. The emission reductions achieved from trip reductions are equivalent to those included in the overall reductions achieved by other rules and regulations. Since the South Coast Air Basin is in extreme non-attainment for ozone it is important that all reductions of ozone precursors (i.e., VOC and NO_x) continue to be pursued and quantified.

It would be difficult to account for any negative or positive changes in a worksite's AVR and to determine the associated emission reductions during the non-surveyed interim years or retroactively offset any reductions that were lost as a result of a negative changes in the worksite AVR.

Staff has reviewed other agencies and regional programs that include AVR surveys. Where biennial surveys are allowed the programs are classified as transportation demand management (TDM) programs, however, Rule 2202 is an emission control measure. TDM programs seek to reduce traffic congestion and the emission reductions are considered to be a co-benefit. Rule 2202 is a performance based program that seeks emission reductions, based on an annual emission target, through the reduction of vehicle trips. Employers, under Rule 2202, can achieve the annual emission target by voluntarily choosing between the different rule compliance options of ERS, AQIP or ECRP.

Staff recognizes that surveying a large employee population can be difficult. Since the program's initial adoption, the ECRP Guidelines has included options of allowing the employers to use a random sampling method or propose alternative survey methods. Staff will continue to evaluate alternative survey methods that can be used for large employee populations.

7. Comment

Request that the Parking Cash-out be eliminated as a Rule 2202 program requirement.

Response

Staff will continue to evaluate the effectiveness of the Parking Cash-out Program to determine if it should be continued and present a recommendation to the SCAQMD Governing Board later this year in accordance with the October 7, 2011 Board adopted resolution and as stated in the ECRP guidelines. The Staff Report includes a report on the current status of the Rule 2202 parking cash-out program for informational purposes only.

8. Comment

Do car-sharing programs such as Uber or Lyft count as a carpool?

Response

Both Uber and Lyft have very recently announced new programs to try to attract the commuter market. These services are too new to determine the effect on carpooling AVR calculations and the level that they will be measureable and quantifiable. Staff will continue to evaluate these service as they evolve.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment:

Proposed Amendments to Rule 2202 Employee Commute Reduction Program Guidelines

May 2015

SCAQMD No. 150211JI

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PREFACE

This document constitutes the Final Environmental Assessment (EA) for the Proposed Amendments to the Rule 2202 Employee Commute Reduction Program Guidelines. The Draft EA was released for a 30-day public review and comment period from March 24, 2015 to April 22, 2015. No comment letters were received from the public relative to the Draft EA. The environmental analysis in the Draft EA concluded that the proposed Amendments to the Rule 2202 Employee Commute Reduction Program Guidelines would not generate any significant adverse environmental impacts.

Minor modifications were made to the proposed amendments subsequent to release of the Draft EA for public review. To facilitate identifying modifications to the document, added and/or modified text is underlined. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document now constitutes the Final EA for the Proposed Amendments to the Rule 2202 Employee Commute Reduction Program Guidelines.

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Project Background

Affected Facilities

California Environmental Quality Act

Project Location

Project Objective

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the District. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the District². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The Final 2012 AQMP concluded that reductions in emissions of particulate matter (PM), oxides of sulfur (SOx), oxides of nitrogen (NOx), and volatile organic compounds (VOC) are necessary to attain the current state and national ambient air quality standards for ozone, and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). Ozone, a criteria pollutant which has been shown to adversely affect human health, is formed when VOCs react with NOx in the atmosphere. VOCs, NOx, SOx (especially sulfur dioxide) and ammonia also contribute to the formation of PM10 and PM2.5.

The Basin is designated by the United States Environmental Protection Agency (EPA) as a non-attainment area for ozone and PM2.5 emissions because the federal ozone standard and the 2006 PM2.5 standard have been exceeded. For this reason, the SCAQMD is required to evaluate all feasible control measures in order to reduce direct ozone and PM2.5 emissions, including PM2.5 precursors, such as NOx and SOx. The Final 2012 AQMP sets forth a comprehensive program for the Basin to comply with the federal 24-hour PM2.5 air quality standard, satisfy the planning requirements of the federal Clean Air Act, and provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standard. In particular, the Final 2012 AQMP contains a multi-pollutant control strategy to achieve attainment with the federal 24-hour PM2.5 air quality standard with direct PM2.5 and NOx reductions identified as the two most effective tools in reaching attainment with the PM2.5 standard. The 2012 AQMP also serves to satisfy the recent requirements promulgated by the EPA for a new attainment demonstration of the revoked 1-hour ozone standard, as well as to provide additional measures to partially fulfill long-term reduction obligations under the 2007 8-hour Ozone State Implementation Plan (SIP).

The Final 2012 AQMP outlines a comprehensive control strategy that meets the requirement for expeditious progress towards attainment with the 24-hour PM2.5 NAAQS in 2014 with all feasible control measures. One of the main control measure categories in the Final 2012 AQMP is *Transportation Control Measures*, which contains control measures generally designed to reduce vehicle miles travelled (VMT) as included in the Southern California Association of Government's (SCAG) 2012 Regional Transportation Plan.

The purpose of Rule 2202 is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. An employer subject to Rule 2202 is required to annually register with the SCAQMD to implement an emission reduction program that will obtain emission reductions

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health and Safety Code, §§40400-40540).

² Health and Safety Code, §40460 (a).

³ Health and Safety Code, §40440 (a).

equivalent to a worksite specific emission reduction target (ERT) specified for the compliance year.

In June 2014, staff amended Rule 2202 and the rule Implementation Guidelines to address issues with the credit market as it is used under Rule 2202. During the public meetings, members of the regulated community requested that the Employee Commute Reduction Program (ECRP) Guidelines be reviewed to consider methods to incentivize employers that demonstrate improvements in the worksite average vehicle ridership (AVR) and to streamline the ECRP submittal process. Staff recognized the effort required to amend the ECRP Guidelines, and therefore agreed to review the document for potential amendment at a later time. Staff is proposing the current amendments to the guidelines to support employers' implementation of this rule option. In general, the proposed amendments (see Appendix A) are to clarify existing language, streamline the ECRP submittal process, and incentivize employer good faith efforts towards meeting the worksite AVR target.

PROJECT BACKGROUND

Originally adopted in December 1995, Rule 2202 provides employers with a menu of options to reduce mobile source emissions generated from employee commutes. Rule 2202 has been amended several times and replaced Rules 1501 - Work Trip Reduction Plans and 1501.1 - Alternatives to Work Trip Reduction Plans. In 1987, Regulation XV was adopted which required trip reduction plans for employers with 100 or more employees. Rule 1501 was amended in 1993 and Rule 1501.1 was adopted in 1995, to comply with federal and state requirements for extreme non-attainment areas. In 1995, Rule 2202 was adopted to respond to state legislation prohibiting mandatory trip reduction plans. Rule 2202 provided worksites of 100 or more employees a menu of emission reduction options to meet an emission reduction target for their worksite. The passage of SB 836 in 1996 directed SCAQMD to raise the employee threshold level from 100 to 250 employees, while SB 432 permanently exempted worksites with fewer than 250 employees from complying with the rule.

The rule has provided members of the regulated community with a menu of flexible and cost effective emission reduction options from which they can choose to implement and meet the emission reduction targets for their worksites. Rule 2202 - On-Road Motor Vehicle Mitigation Options (Rule 2202) (<http://www.aqmd.gov/home/programs/business/business-detail?title=rule-2202-on-road-motor-vehicle-mitigation-options>) requires any employer who employs 250 or more employees at a work site to develop and implement an emission reduction program to reduce emissions related to employee commutes (between 6:00 AM and 10:00 AM). Rule 2202 continues to allow subject employers the option of implementing a traditional trip reduction program as a means to comply with the rule.

Alternatively, rather than choosing the ERS or AQIP options, an employer may elect to implement an ECRP, otherwise known as a rideshare program. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving an AVR target for employer's worksites. The AVR is calculated by taking the number of employees who report to the worksite divided by the number of vehicles that arrived at the worksite. Employers who voluntarily choose to implement an ECRP are required to submit an annual program that demonstrates good faith effort toward achieving their worksite AVR target. Employers implementing an ECRP must do so in conformance with the ECRP Guidelines. The ECRP

Guidelines provide the basis for the implementation of this rule option and have been in effect since the initial adoption of Rule 2202 in 1995. The ECRP Guidelines informs employers of the process of meeting rule requirements but more importantly explains how to develop a successful trip reduction program.

AFFECTED FACILITIES

As of November 2014, there were approximately 1,338 worksites subject to Rule 2202, which represents over 1.16 million worksite employees throughout the region that are affected by Rule 2202. The worksites are not concentrated in any particular business, industry or location. Rule 2202 provides employers with two compliance options: the Emission Reduction Strategy (ERS) (<http://www.aqmd.gov/home/programs/business/business-detail?title=rule-2202-on-road-motor-vehicle-mitigation-options>) or Air Quality Improvement Program (AQIP) (<http://www.aqmd.gov/home/programs/business/business-detail?title=air-quality-investment-program>). Employers who choose to implement an ECRP are exempt from complying with the rule options (<http://www.aqmd.gov/home/programs/business/r2202-forms-guidelines>). Within Rule 2202, worksite participation in the ERS, ECRP, and AQIP is approximately 58 percent, 37 percent, and 5 percent respectively. For the ERS, the requirement is to achieve emission reductions for that worksite, which is determined by the number of employees reporting to work during the peak commute window time period of 6:00 a.m. to 10:00 a.m., and the employee emission reduction factor compliance zone. Under the AQIP, worksites pay a fixed amount per employee reporting to work during the peak commute time period to a restricted fund that is used to purchase emission credits or fund projects that achieve an equivalent amount of mobile source emission reductions.

Rule 2202 provided worksites of 100 or more employees a menu of emission reduction options to meet an emission reduction target for their worksite. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving an AVR target for employer's worksites. Employers who voluntarily choose to implement an ECRP are required to demonstrate good faith effort toward meeting the worksite AVR target. Facilities complying with Rule 2202 under ERS or AQIP will experience no change as a result of the proposed project. Employers participating in the ECRP could be affected by the proposed amendments because of the proposed removal of the clean fleet and the diesel minimization requirements for certain types of employers. However, the effects are not expected to be adverse or significant. Additionally, the proposed amendments will not result in an increase in the employee AVR targets or impose any additional burdens to employers. Furthermore, improved worksite AVR will be incentivized through the reductions in plan submittal requirements and reduced filing fees.

Employers always have the option of switching between the different compliance options. However, the choice between the different options is dependent on many different factors such as relative cost of the different options, changes in number of employees, or other employer operational changes. The proposal will afford employers additional incentives (e.g., more streamlined submittals) to comply with Rule 2202 requirements through the implementation of the ECRP.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The proposed amendments to the Rule 2202 ECRP Guidelines is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a “project” as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this final environmental assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program and SCAQMD Rule 110. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this final EA to address the potential adverse environmental impacts associated with the proposed project. The final EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15252 and 15126.6(f), no alternatives are proposed to avoid or reduce any significant effects because there are no significant adverse impacts, and pursuant to CEQA Guidelines §15126.4(a)(3), mitigation measures are not required for effects not found to be significant. The analysis in the form of the environmental checklist in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

Comments received on the final EA during the public comment period and responses to comments will be prepared and included in the Final EA for the proposed project.

PROJECT LOCATION

The potentially affected facilities are located throughout the SCAQMD jurisdiction. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD's jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the

SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).



Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

The objectives of the proposed amendments to the Rule 2202 ECRP Guidelines are to:

- Include alternative program submittals as additional plan submittal types to incentivize worksite AVR improvements and streamline submittals of the ECRP as a rule compliance option;
- remove outdated programs that have been superseded by state regulations and fleet requirements that specifically address the original intent of these program elements;
- include administrative language and document restructuring to provide clarity and guidance to the regulated community.

PROJECT DESCRIPTION

The SCAQMD is proposing the following amendments to the Rule 2202 ECRP Guidelines:

- the removal of the Employer Clean Fleet Purchase / Lease Program and Mobile Source Diesel PM/NOx Emission Minimization Program, as they have been or soon will be overtaken by state regulations that specifically address the original intent of these program elements;
- the inclusion of High AVR and AVR Improvement Submittals as additional plan submittal types to incentivize worksite AVR improvements and streamline submittals of the ECRP as a rule compliance option;
- the inclusion of additional administrative language and document restructuring to provide clarity and guidance to the regulated community.

A more detailed description of the main components of the proposed project can be found in the “Environmental Checklist and Discussion” section in Chapter 2 and in the amended ECRP Guidelines which are included as Appendix A.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Proposed Amendments to Rule 2202 Employee Commute Reduction Program Guidelines
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Jeff Inabinet (909) 396-2453
Rule Contact Person	Mr. Ernie Lopez (909) 396-3305
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	<p>The SCAQMD is proposing the following amendments to the Rule 2202 ECRP Guidelines:</p> <ul style="list-style-type: none">• the removal of the Employer Clean Fleet Purchase / Lease Program and Mobile Source Diesel PM/NOx Emission Minimization Program, as they have been or soon will be overtaken by state regulations that specifically address the original intent of these program elements;• the inclusion of High AVR and AVR Improvement Submittals as an additional plan submittal type to incentivize worksite AVR improvements and streamline submittals of the ECRP as a rule compliance option;• the inclusion of additional administrative language and document restructuring to provide clarity and guidance to the regulated community.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|---|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation/Traffic |
| <input type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1)has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: March 20, 2015

Signature: 
Michael Krause
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of the proposed project is to update available strategies in the Rule 2202 ECRP Guidelines, clarify existing language, streamline the ECRP submittal process, and incentivize employer good faith efforts towards meeting the worksite AVR target.

The objectives of the proposed project are to:

- Remove outdated programs that have been superseded by state regulations and fleet requirements that specifically address the original intent of these program elements;
- include alternative program submittals as an additional plan submittal type to incentivize worksite AVR improvements and streamline submittals of the ECRP as a rule compliance option;
- include administrative language and document restructuring to provide clarity and guidance to the regulated community.

In order to ensure that any potential significant adverse environmental impacts are identified and evaluated and that feasible methods to reduce or avoid any potential significant adverse environmental impacts associated with the proposed project are identified and evaluated, the impact analysis focused on the following specific proposed amendments to the Rule 2202 ECRP Guidelines:

Employer Clean Fleet Purchase / Lease Program

Currently, employers that have not met the worksite AVR target requirement and own or lease four or more vehicles are required to incorporate vehicles in their fleet that meet certain emission standards. The vehicles must be at least ultra-low emission vehicles (ULEV) for light-duty passenger vehicles and trucks, and super ultra-low emission vehicles (SULEV) for medium-duty vehicles, as certified by the California Air Resources Board (CARB). When submitting their annual worksite program, the ECRP Guidelines ([http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-2202/rule-2202-employee-commute-reduction-program-guidelines-\(ecrp\).pdf?sfvrsn=4](http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-2202/rule-2202-employee-commute-reduction-program-guidelines-(ecrp).pdf?sfvrsn=4)) require employers to include an inventory which describes the number and type of vehicles in the existing operating fleet. Additionally, employers are also required to submit a detailed list of the vehicles being acquired which includes information such as make, model, fuel type, engine family number, and start of service date. This requirement was implemented in February 2004, and since that time, an average of 166 light-duty vehicles per year have been acquired at 48 worksites.

The Employer Clean Fleet Purchase / Lease Program was adopted as part of the ECRP Guidelines during the 2004 amendments with the intent to encourage consumer choice of cleaner vehicles at the time of vehicle purchase or lease. The requirements for cleaner vehicles was based on the tailpipe emission standards described in Rule 1191 - Clean On-Road Light- and Medium-Duty Public Fleet Vehicles, where light and medium duty passenger vehicles were required to meet ULEV and medium duty vehicles were required to meet the SULEV emission standards. However, since the 2004 ECRP Guidelines amendment, the availability of ULEV and SULEV vehicles has significantly increased as a result of the CARB vehicle emission standards and the gaining popularity of fuel efficient vehicles. Therefore, the common standard vehicle

acquired for fleets has already met the guideline requirements. Additionally, standard LEVs are generally not purchased for fleets (e.g., luxury cars).

To demonstrate the trend for cleaner vehicles, as shown in Table 2-1 below, the number of available certified engine families or test groups that meet the ULEV emission standard or better in 2014 has close to doubled in comparison to 2004 from 48 percent to 85 percent.

**Table 2-1
Passenger and Light Duty Truck CARB Certifications**

CARB Certification	2004 Available	Percentage	2014 Available	Percentage
LEV	154	51%	59	16%
ULEV	123	41%	241	65%
SULEV	1	0.3%	18	5%
PZEV	18	6%	37	10%
ZEV	4	1%	18	5%
Total	300		373	

At the time of the 2004 amendment, the tailpipe emission standard for vehicles was the Low Emission Vehicle II (LEV II) standard, initially adopted by CARB in 1998. More recently, the LEV III emission standard was adopted by CARB in 2012, which is to be phased-in for vehicle model years 2015 through 2025. The LEV III standard introduced another significant reduction in emission levels. The adoption of LEV III standards will significantly increase the availability of ULEV and SULEV vehicles in the future and will ensure that future fleets will comply with the intent of the original requirement to be removed.

Given the full implementation of LEV II and the phase-in of LEV III, which will significantly increase the availability of the type of fleet vehicles that will meet the 2004 guideline standard, staff is proposing that the Employer Clean Fleet Vehicle Purchase / Lease Program be removed from the ECRP Guidelines. Currently, employers commonly acquire the type of passenger vehicles into their fleets that will meet the ULEV standard or better. Because of this and the phase-in of more stringent emission standards under LEV III, the removal of this requirement is not expected to have an impact on the program's emission reductions, and therefore, is not expected to create an adverse environmental impact. Furthermore, the removal of this requirement will incentivize compliance with the ECRP Guidelines by reducing the administrative burden for employers submitting an ECRP to demonstrate compliance with this requirement.

Mobile Source Diesel PM / NOx Emission Minimization Program

Employers with 1,000 or more employees reporting to work during 6am to 10am that implement an ECRP but not meet their AVR target are required to complete a mobile source diesel PM / NOx emission minimization plan. This requirement applies to off-road self-propelled diesel-fueled equipment that cannot be registered and licensed to drive on-road (e.g., tractors, forklifts, riding lawnmowers, yard hostlers, etc.) (<http://www.aqmd.gov/docs/default-source/rule-book/support-documents/rule-2202/rule-2202-employee-commute-reduction-program->

[guidelines-\(ecrp\).pdf?sfvrsn=4](#)). Every three years the employer is currently required to submit an equipment inventory that includes a list of the self-propelled diesel-fueled equipment, fuel usage for each piece of equipment, and use of control technologies if applicable, at the worksite. The equipment inventory is reviewed by the SCAQMD to determine technical feasibility and the implementation cost of adding control equipment or replacing the vehicle. This inventory review is done in consultation with the employer, and when the plan has been approved, the employer is required to implement the feasible diesel emission control technologies, which can include replacement, repowering, or the use of control technologies. The intent of this inventory review was to accelerate the control of off-road mobile diesel equipment emissions.

In July 2007, CARB approved the In-Use Off-Road Diesel Vehicle regulation to reduce emissions from existing off-road diesel equipment. The regulation requires off-road fleets to modernize and add retrofit technologies. It imposed limits on idling beginning in 2008, and in 2010 began phase-in of requirements to clean-up fleets by eliminating older engines and install exhaust retrofits. The overall purpose of the CARB regulation is to reduce NOx and PM emissions from off-road diesel equipment. Effective 2008, engine idling was to be limited to five minutes and high emission equipment (pre-1996) could not be purchased. Full implementation beginning in 2014, 2017, and 2019 for large, medium, and small equipment respectively will require meeting fleet emission targets through equipment turnover or application of BACT by installation of control equipment, equipment repowering, or replacement. Furthermore, CARB adopted in December 2004, the Off-Road Compression-Ignition Engines and Equipment Tier 4 emission standard. The Tier 4 standard requires new off-road diesel engines to meet emission standards 50-96% lower than the existing generation of diesel engines beginning in 2008. The Tier 4 diesel engine standard requirements should be fully implemented by 2015.

Sixty-five of the 494 employers submitting ECRPs currently report having 1,000 or more employees starting work during peak hours. Since implementation, a total of twenty-six different employers have submitted an off-road mobile diesel equipment inventory. As of December 2014, 13 employers have submitted equipment inventories where there may be additional opportunities to mitigate emissions. Five have submitted inventories with no additional mitigation possible because the equipment has been removed, repowered, replaced, all feasible controls have been installed, or it is infeasible to install controls on the remaining equipment. The remaining eight employers are no longer submitting equipment inventories due to changes in compliance program submittal option, meeting the worksite AVR target, or the number of employees starting work during peak hours has fallen below 1,000, thus no longer subject to the program.

As a result, all of the participating employers have had their diesel equipment reviewed at least twice and most, if not all, of the available mitigation measures pursuant to the ECRP guidelines have been applied. The SCAQMD is recommending to remove this plan requirement because the adoption of the CARB off-road diesel equipment regulation at full implementation applies a more stringent requirement and is applicable to all off-road mobile diesel equipment. Furthermore, the CARB regulation is applicable to all Rule 2202 employers and is not limited to the employers who submit an ECRP and have 1,000 or more employees who start work during peak hours. Although the ECRP requirements have similar goals to the CARB regulation, it is not as stringent since CARB's regulation includes an idling limit component and specific emission limits or control requirements. The SCAQMD's ECRP off-road diesel requirements

are limited in scope when compared to the state-wide program since it is only applicable to a relatively smaller population. The ECRP requirements are superseded by the CARB regulation and the removal of this program requirement will have no effect on the control of emissions from off-road diesel equipment. Therefore, the removal of this program is not expected to create an adverse environmental impact.

High AVR and AVR Improvement Submittals

Employers who have met or exceeded the worksite AVR target can, in accordance with the ECRP Guidelines, request a High AVR No Fault Inspection. Higher AVR means less vehicles are arriving at the worksite, thus more emission reductions. These inspections are required to be scheduled at a worksite two months prior to their compliance plan submittal date to verify the AVR survey data results. Once the data has been verified, employers receive a reduction in filing fees and are not required to submit the portion of the compliance forms describing their good faith effort determination elements. In order to simplify ECRP submittals, the SCAQMD is proposing to remove the requirement for a worksite inspection, and to specify that the submittal of the good faith effort determination for High AVR Program submittals is not required if there is no change from the previously approved plan. The employer may elect to amend the plan if changes are sought.

Currently, less than 10 employers elect to submit in the High AVR No Fault Inspection program. However, approximately 115 employers could qualify to submit a High AVR submittal. Staff believes that by removing the inspection requirement, the proposed amendment could incentivize additional employers to meet their AVR target under the High AVR program. However, worksites will still be subject to SCAQMD's overall inspection for Rule 2202 and compliance verification.

To further incentivize employers' efforts to improve their worksite AVR, staff is proposing an AVR Improvement Program submittal. Employers are currently required to demonstrate good faith effort toward meeting the worksite AVR. One measure of good faith effort is the increase in AVR when compared to the previous year's ECRP submittal. Staff's proposal is to reward employers having an AVR improvement over a consecutive three year period by not requiring the submittal of the good faith effort determination elements and reducing the per worksite filing fee by 20 percent.

To qualify for the AVR Improvement Program, employers are required to have an AVR improvement of 0.01 or greater for each of the two previous consecutive years, as well as the year that is being submitted. When evaluating ECRP submittals, AVR improvement of 0.01 is consistent with the criteria used by Staff to determine the demonstration of a good faith effort. However, if the AVR has an improvement of 0.05 when compared to the immediate previous year, the employer may also submit an AVR Improvement Program. An AVR improvement of 0.05 can represent a significant effort on the part of an employer and should be appropriately incentivized. An AVR change of 0.01 over each of the 3 years would reward employers who have continued program improvement and demonstrate a good faith effort toward achieving their AVR target.

It is believed that more worksites could qualify for the High AVR program as demonstrated by those filing ECRPs in 2014 with high AVRs and substantial AVR improvement. There are approximately 115 worksites that submitted a High AVR Improvement Program in 2014.

Approximately 77 worksites that have improved their AVR by 0.05 or better in 2014 could qualify for this program. Additionally, there are 106 worksites that had ongoing improvements in their AVRs of 0.01 or greater for three consecutive years that could submit an AVR Improvement Program. The number of worksites that are potentially affected are summarized in Table 2-2. The purpose of this provision is to incentivize employers to increase their AVR through the reduction of filing fees and by reducing the administrative burden.

Table 2-2
Effect of High AVR and AVR Improvement Programs

Program	Worksites
ECRP	494
High AVR ¹	115
AVR Improvement (≥0.05 change) ²	77
AVR Improvement (≥0.01 change) ³	106

1. Meets or exceeds worksite AVR target
2. Does not include worksites with AVR improvement less than 0.05
3. Does not include worksites that met their AVR target or have no change in AVR

The removal of the High AVR Program inspection requirement and the proposed improvements in the submittal program are not expected to create any adverse environmental impacts because they will not impose any additional requirements (e.g. control equipment, new vehicles / equipment, etc.) that would create a physical adverse change to the environment.

Other proposed amendments include administrative language and document restructuring to provide clarity and guidance to the regulated community. The proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and not generate any additional control or adverse physical change to the environment, so therefore, are not expected to cause any adverse environmental impacts.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I. a), b), c) & d) Adoption of the proposed rule amendments would afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and cause no adverse physical change to the environment. Implementation of the proposed rule amendments would not require the construction of new buildings or other major structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, the proposed rule amendments would not involve the demolition of any existing buildings or facilities, require the acquisition of any new land or the surrendering of existing land, or the modification of any existing land use designations or zoning ordinances. Thus, the proposed project is not expected to degrade the visual character of any site or its surroundings, affect any scenic vista, or damage scenic resources. Since the proposed project only affects ECRP guidelines and does not require the addition of lighting, it is not expected to create any new source of substantial light or glare.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).
- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II. a), b), c) & d) Adoption of the proposed rule amendments would afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and cause no adverse physical change to the environment. Therefore, adoption of the proposed rule amendments would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. The proposed rule amendments would not require converting farmland to non-agricultural uses because the potentially affected facilities are expected to be already completely developed. For the same reasons, the proposed rule amendments would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant adverse agricultural and forestry resource impacts are not anticipated and will not be further analyzed in this final EA. Since no significant agriculture and forestry resource impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.				
Would the project:				
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute to an existing or projected air quality violation?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing the proposed rule amendments are significant, impacts will be evaluated and compared to the criteria in Table 2-3. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-3 are equaled or exceeded.

To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO₂/year threshold for industrial sources.

**TABLE 2-3
SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO _x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM ₁₀	150 lbs/day	150 lbs/day
PM _{2.5}	55 lbs/day	55 lbs/day
SO _x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas ≥ 1 in 1 million) Chronic & Acute Hazard Index ≥ 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	

**TABLE 2-3
SCAQMD Air Quality Significance Thresholds (concluded)**

Ambient Air Quality Standards for Criteria Pollutants^d	
NO2 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)
PM10 24-hour average annual average	10.4 µg/m ³ (construction) ^e & 2.5 µg/m ³ (operation) 1.0 µg/m ³
PM2.5 24-hour average	10.4 µg/m ³ (construction) ^e & 2.5 µg/m ³ (operation)
SO2 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)
Sulfate 24-hour average	25 µg/m ³ (state)
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)
Lead 30-day Average Rolling 3-month average	1.5 µg/m ³ (state) 0.15 µg/m ³ (federal)

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million µg/m³ = microgram per cubic meter ≥ = greater than or equal to
 MT/yr CO₂eq = metric tons per year of CO₂ equivalents > = greater than

III. a) and b) Attainment of the state and federal ambient air quality standards protects sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. Incentivizing ridesharing and the implementation of employee commute reduction protocols contributes to carrying out the goals of the 2012 AQMP, specifically, the goals of control measure ONRD-01, Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles to reduce NO_x and PM_{2.5} emissions. Further, reducing emissions from traditional gasoline-powered vehicles by introducing ridesharing incentives helps contribute towards attaining and maintaining the state and federal ozone and PM_{2.5} ambient air quality standards. It is expected that the proposed rule amendments would improve air quality and visibility over time and, would do likewise for any community within one-quarter mile of affected facilities.

Thus, because the proposed rule amendment implements a portion of this control measure in the 2012 AQMP which results in achieving emission reductions, the proposed project does not obstruct implementation of the applicable AQMP.

Construction Impacts

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions (NO_x, SO_x, CO, VOC, and PM₁₀) from the operation of heavy-duty construction equipment, fugitive dust (as PM₁₀) from disturbed soil, and VOC emissions from asphaltic paving and painting. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (as PM₁₀) from worker commute trips, material delivery trips, and haul truck material removal trips to and from the construction site.

No construction activities are anticipated as a result of the adoption of the proposed project. Adoption of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP. Therefore, no construction impacts from adoption of the proposed amendments are expected. As a result, there would be no significant adverse construction air quality impacts resulting from the proposed project for criteria pollutants.

Operational Impacts- Criteria Pollutants

Adoption of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and cause no adverse physical change to the environment. These amendments are expected to affect existing, already established workplaces.

The removal of the Employer Clean Fleet Vehicle Purchase / Lease Program from the ECRP Guidelines is not expected to create an adverse operational air quality impact because employers typically acquire the type of passenger vehicles into their fleets that will meet the ULEV standard or better and due to the phase-in of more stringent emission standards under CARB's LEV III program.

The removal of the Mobile Source Diesel PM / NO_x Emission Minimization Program from the ECRP Guidelines is not expected to create an adverse operational air quality impact because it is superseded by CARB's more stringent off-road diesel equipment regulation, which is already applicable to all off-road mobile diesel equipment and is not limited to the employers who submit an ECRP and have 1,000 or more employees starting work during peak commute hours.

The removal of the High AVR Program inspection requirement and the proposed improvements in the submittal program are not expected to create an adverse operational air quality impact because they will not impose any additional requirements (ie. control equipment, new vehicles/equipment, etc.) on employers who elect to participate in this program.

Therefore, the implementation of the proposed project is not expected to result in any significant adverse operational air quality impacts.

Operational Impacts- Toxic Air Contaminants

In assessing potential impacts from the adoption of the proposed amendments, SCAQMD staff not only evaluates the potential air quality benefits, but also determines potential health risks associated with implementation of the proposed amendments.

As stated previously, adoption of the proposed amendments would afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP

and cause no adverse physical change to the environment. The proposed amendments are not expected to generate an increase in any toxic emissions because the adjustment of rideshare programs is not expected to generate any toxic emissions. As a result, there will be no increase in toxic air contaminant emissions due to the proposed amendments.

III. c) As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant⁴.

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the SCAQMD's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines §15064.7, stating, "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "Although the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria..." "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." As in *Chula Vista*, here the District has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established SCAQMD significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the SCAQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. Thus, it may be concluded that the Project will not cause a significant unavoidable cumulative contribution to an air quality impact.

Based on the foregoing analysis, project-specific air quality impacts from implementing the proposed project would not exceed air quality significance thresholds (Table 2-3); therefore, based on the above discussion, cumulative impacts are not expected to be significant for air quality. Therefore, potential adverse impacts from the proposed project would not be "cumulatively considerable" as defined by CEQA Guidelines §15064(h)(1) for air quality impacts. Per CEQA Guidelines §15064(h)(4), the mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable.

III. d) Affected facilities are not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of the proposed amendments for the following reasons: 1) affected facilities are primarily located in existing commercial areas;

⁴ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3, <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4>.

2) participants in the ECRP program are actively attempting to reduce their fleet emissions; and
3) there will be no additional control or infrastructure needed as a result of the adoption of the proposed amendments. Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing the proposed project.

III. e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. The proposed project is not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) no odors are associated with the adjustment of rideshare programs in the ECRP; 2) no construction activities are expected to be necessary at the affected worksites; and, 3) participants in the ECRP program are actively attempting to reduce their fleet emissions, thus reducing corresponding odor generated by fossil fuel combustion. Therefore, no significant odor impacts are expected to result from implementing the proposed project.

III. f) The proposed project is not expected to diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant because the proposed amendments will not impose any additional requirements (ie. control equipment, new vehicles/equipment, etc.) on employers who elect to participate in this program. Additionally, the proposed project will not create any adverse impacts because there will be no physical change to the environment. For the Employer Clean Fleet Purchase / Lease Program, the common standard vehicle acquired for fleets has already met the guideline requirements. Additionally, typical vehicles that do not meet the requirements are generally not purchased for fleets (e.g., luxury cars). For the Mobile Source Diesel PM / NOx Emission Minimization Program, the ECRP requirements are superseded by the CARB regulation and the removal of this program requirement will have no effect on the control of emissions from off-road diesel equipment. Therefore, the proposed project is not expected to have any adverse impacts to existing air quality rules and regulations.

III. g) & h) Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming.⁵ State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF₆) (HSC §38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

GHGs and other global warming pollutants are often perceived as solely global in their impacts because increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, a study conducted on the health impacts of CO₂ “domes” that form over

⁵ Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press.
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

urban areas shows they can cause increases in local temperatures and local criteria pollutants, which have adverse health effects.⁶

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD's current position is to evaluate the effects of GHGs over a longer timeframe than a single day (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This interim threshold is set at 10,000 metric tons of CO₂ equivalent emissions (MTCO₂eq) per year. Projects with incremental increases below this threshold will not be deemed to be cumulatively considerable.

The Program EIR for the 2012 AQMP concluded that implementing the control measures in the 2012 AQMP would provide a comprehensive ongoing regulatory program that would reduce overall GHGs emissions in the District.

Adoption of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP; therefore, replacing older, higher emitting gasoline-powered vehicles that generate GHG emissions. A lower amount of fuel being burned as a result of the operation of more fuel efficient vehicles will generate less GHG emissions than the existing setting. Therefore, no additional GHG emissions will occur as a result of the proposed project.

Since the proposed project is not expected to require additional control, thus not generate any additional construction-related or operational CO₂ emissions, cumulative GHG adverse impacts from the proposed project are not considered significant or cumulatively considerable.

Conclusion

Based on the preceding evaluation of potential air quality impacts, SCAQMD staff has concluded that the proposed project does not have the potential to generate significant adverse air quality impacts. Since no significant adverse air quality and greenhouse gases impacts were identified, no mitigation measures are necessary or required.

⁶ Jacobsen, Mark Z. "Enhancement of Local Air Pollution by Urban CO₂ Domes," Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IV. BIOLOGICAL RESOURCES.				
Would the project:				
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.
- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV. a), b), c), & d) The proposed amendments would not require any new development or require major modifications to buildings or other structures. Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and will not require new construction as a result of the proposed project. In addition, the biological resources have already been disturbed or removed at the existing facilities. The proposed project should continue to benefit air quality that will improve the habitat and biological community. As a result, the proposed project would not directly or indirectly affect any new or existing species identified as a candidate, sensitive or special status species, riparian habitat, federally protected wetlands, or migratory corridors. For this same reason, the proposed project is not expected to adversely affect special status plants, animals, or natural communities.

IV. e) & f) The proposed project would not conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it would not cause new development. Additionally, the proposed project would not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason identified in Item IV. a), b), c), and d) above. Likewise, the proposed project would not in any way impact wildlife or wildlife habitat.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource, site, or feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V. a), b), c), & d) The proposed amendments do not require construction of new facilities, increase the floor space of existing facilities, or any other construction activities that would require disturbing native soil that may contain cultural resources. The proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and not require installation of additional controls. Therefore, the proposed project will not require construction activity and thus, is not expected to cause any adverse impacts to cultural resources.

Since no construction-related activities requiring native soil disturbance would be associated with the implementation of the proposed amendments, no impacts to historical or cultural resources are anticipated to occur. Further, the proposed amendments are not expected to require any adverse physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing the proposed amendments and will not be further assessed in this final EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a) & e) Adoption of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and cause no adverse physical change to the environment. The proposed amendments are not expected to create any additional demand for energy at any of the affected facilities. As a result, the proposed project would not conflict with energy conservation plans, use non-renewable resources in a wasteful manner, or result in the need for new or substantially altered power or natural gas systems. Since the proposed project would affect primarily existing facilities, it will not conflict with adopted energy conservation plans because existing facilities would be expected to continue implementing any existing energy conservation plans. Additionally, operators of affected facilities are expected to implement existing energy conservation plans or comply with energy standards to minimize operating costs. Accordingly these impact issues will not be further analyzed in the final EA.

Since the proposed rule amendments would affect facilities primarily located in commercial areas, it will not conflict with adopted energy conservation plans because existing facilities where that are affected are expected to continue implementing any existing energy conservation plans. Accordingly these impact issues will not be further analyzed in the final EA.

VI. b), c) & d) The proposed amendments are not expected to increase any electricity or natural gas demand in any way and would not create any significant effects on peak and base period demands for electricity and other forms of energy. Power demand is not expected to increase as a result of the proposed rule amendments because they do not require any additional power supply.

The energy impact from petroleum fuels is anticipated to be a benefit in the reduction of fuel consumption due to the future implementation of more fuel efficient vehicles in affected fleets.

Based on the above information, the proposed amendments are not expected to generate significant adverse energy resources impacts and will not be discussed further in this final EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a) Southern California is an area of known seismic activity. Structures must be designed to comply with the California Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions

at the site. Accordingly, buildings and equipment at existing affected facilities are likely to conform with the Uniform Building Code and all other applicable state codes in effect at the time they were constructed.

Implementation of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and not change the physical environment. No new buildings or structures are expected to be constructed in response to the proposed amendments. In addition, the proposed amendments are not expected to affect a facility's ability to continue to comply with any applicable Uniform Building Code requirements. Consequently, the proposed amendments are not expected to expose persons or property to new geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure of people or structure to the risk of loss, injury, or death involving seismic-related activities is not anticipated and will not be further analyzed in this final EA.

VII. b), c), d) & e) Since the proposed amendments would affect primarily existing facilities and would not be the cause of any new construction, it is expected that the soil types present at the affected facilities that are susceptible to expansion or liquefaction would be considered part of the existing setting. Implementation of the proposed amendments would only require facilities that choose to participate in ECRP recordkeeping to maintain paperwork and submit the appropriate filings. New subsidence impacts are not anticipated since no major excavation, grading, or fill activities will occur at affected facilities. Further, the proposed amendments do not involve the removal of underground products (e.g., water, crude oil, et cetera) that could produce new, or make worse existing subsidence effects. Additionally, the affected areas are not envisioned to be prone to new risks from landslides or have unique geologic features, since the affected facilities are located in primarily commercial areas where such features have already been altered or removed. Finally, since adoption of the proposed amendments would be expected to affect operations at primarily existing facilities, the proposed amendments are not expected to alter or make worse any existing potential for subsidence, liquefaction, etc.

Based on the above discussion, the proposed amendments are not expected to have an adverse impact on geology or soils. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed in the final EA. No mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a, b) & c) The proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, due to the fact that the proposed amendments do not require the transport, use, and disposal of hazardous materials. Based on the fact that the proposed amendments do not require the transport, use and disposal of hazardous materials, the proposed amendments will not create a significant hazard to the public or environment through a reasonably foreseeable release of these materials into the environment.

Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and not cause any adverse physical change to the environment. The proposed amendments to the ECRP Guidelines are expected to affect already existing workplaces. Therefore, there is little likelihood that affected facilities will emit new hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school as a result of implementing the proposed project. The potentially affected facilities are typically located in commercially zoned work areas, which typically do not generate any hazardous materials, so the existing setting does not change.

VIII. d) It is not anticipated that the proposed project will alter in any way how operators of facilities who choose to participate in the ECRP manage their hazardous wastes. Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. It is not possible at this time to know the facilities that will be incentivized to participate in the ECRP. However, for any facilities affected by the proposed project that are on the Government Code §65962.5 list, it is anticipated that they would continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

VIII. e) Since the proposed project would afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and, implementation of the proposed amendments are not expected to increase or create any new hazardous emissions in general, public/private airports located in close proximity to the affected facilities will not be adversely affected. Implementation of the proposed amendments is not expected to create any additional safety hazards for people residing or working in the project area.

VIII. f) The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. The facilities potentially affected by the proposed amendments are expected to be primarily located in commercial work

place settings. Any existing commercial facilities affected by the proposed project will typically have their own emergency response plans. Any new facilities will be required to prepare emergency response and evacuation plans as part of the land use permit review and approval process conducted by local jurisdictions for new development. Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. Since the proposed project does not involve the change in current uses of any hazardous materials, or generate any new hazardous waste, no changes to emergency response plans are anticipated.

Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
 - a. The safe handling of hazardous materials used by the business;
 - b. Methods of working with the local public emergency response agencies;
 - c. The use of emergency response resources under control of the handler; and
 - d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Adopting the proposed project is not expected to hinder in any way with the above business emergency response plan requirements.

VIII. g) Adoption of the proposed amendments will afford employers additional incentives to comply with the Rule 2202 requirements through the implementation of the ECRP and not cause a physical change to the environment. The proposed amendments have no provisions that dictate the use of, or generate any new hazardous material. Since the potentially affected facilities will primarily be located at established commercial workplace areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing the proposed project.

VIII. h) Affected facilities must comply with all local and county requirements for fire prevention and safety. The proposed project does not require any activities which would be in conflict with fire prevention and safety requirements, and thus would not create or increase fire hazards at these existing facilities.

Pursuant to local and county fire prevention and safety requirements, facilities are required to maintain appropriate site management practices to prevent fire hazards. The proposed project will not interfere with fire prevention practices.

In conclusion, potentially significant adverse hazard or hazardous material impacts resulting from adopting and implementing the proposed project are not expected and will not be considered further. No mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and not cause any adverse physical change to the environment. The proposed amendments to the ECRP Guidelines are expected to affect already existing workplaces. Further, implementation of the proposed project would not require any construction activities at the affected facilities as no new or additional control would be required.

No additional water demand or wastewater generation is expected to result from the proposed projects because complying with Rule 2202 and the ECRP Guidelines does not require the use of water or generate wastewater. Further, the proposed project has no provision that would require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. The proposed project would not

substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The proposed project would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Further, since the proposed amendments do not involve wastewater processes, there would be no change in the composition or volume of existing wastewater streams from any potentially affected facilities. In addition, the proposed project is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

IX. a) & f) The proposed project will not change existing vehicle parking operations at potentially affected facilities, nor would it result in the generation of increased volumes of wastewater. As a result, there are no potential changes in wastewater volume or composition expected from the implementation of the proposed project. Further, the implementation of the proposed project is not expected to cause potentially affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no wastewater volumes generated as a result of the proposed amendments to the ECRP Guidelines. The adoption of the proposed project is not expected to have significant adverse water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

IX. b) Because the proposed amendments to the ECRP Guidelines do not rely on water, no increase to any affected facilities' existing water demand is expected. Because compliance with Rule 2202 and the ECRP Guidelines does not affect water usage, implementation of the proposed project will not increase demand for, or otherwise affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of the proposed project will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Since the proposed amendments do not require any construction activities at the affected facilities, no paving is expected to be required that might interfere with groundwater recharge. Therefore, no water demand impacts are expected as the result of implementing the proposed project.

IX. c), d), & e) Implementation of the proposed project will occur at primarily existing facilities, or areas that are typically located at existing commercial workplace areas that are paved and likely have drainage infrastructure in place. No construction activities are expected to occur as a result of the proposed project. Therefore, no change to existing storm water runoff, drainage patterns, groundwater characteristics, or flow are expected.

IX. g), h), & i) The proposed project will not require construction of new housing, contribute to the construction of new building structures, or require modifications or changes to existing structures. Therefore, the proposed project is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, the proposed project is not expected to require additional operational workers at affected equipment locations. As a result, the proposed project is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Finally, the proposed project will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or create new hazards at existing facilities.

The proposed project will not increase storm water discharge, since no construction activities are expected to occur at the affected facilities as a result of the proposed project. No major changes are necessary at the affected facilities to increase storm water runoff during operations. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of the proposed project. Accordingly, the proposed project is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of the proposed project and will not be further analyzed in this final EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and cause no adverse physical change to the environment. The proposed amendments are expected to primarily affect already existing workplaces. Since implementation of the proposed project is expected to occur at already existing facilities, it will not require or result in physically dividing an established community.

X. b) There are no provisions in the proposed amendments that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed project. Affected facilities would have to comply with local ordinances and land use requirements. Therefore, as already noted in the discussion under “Biological Resources,” the proposed project would not affect any habitat conservation or natural community conservation plans, or agricultural resources or operations, and would not create divisions in any existing communities. Present or planned land uses in the region would not be significantly adversely affected as a result of implementing the proposed project.

Based upon these considerations, significant adverse land use and planning impacts are not expected from the implementation of the proposed project and will not be further analyzed in this final EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a) & b) There are no provisions in the proposed project that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines, the proposed project does not require and would not have any effects on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and no significant adverse mineral resources impacts from implementing the proposed project are anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of the proposed project. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and cause no adverse physical change to the environment. The proposed project would not require any new development or require major modifications to buildings or other structures or require new or additional control to comply with the proposed project that would generate noise. The proposed project is not expected to expose persons to the generation of excessive noise levels above current levels because no change in current operations is expected to occur as a result of the proposed project. It is expected that any facility affected by the proposed project would continue complying with all existing local noise control laws or ordinances.

XII. b) The proposed project is not anticipated to expose people to or generate excessive groundborne vibration or groundborne noise levels since no construction activities are expected to occur at the facilities potentially affected by the proposed amendments.

XII. c) A permanent increase in ambient noise levels at the affected locations above existing levels is not expected because the proposed amendments would not create any additional increases in noise levels. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of the affected facilities to above a level of significance in response to implementing the proposed project.

XII. d) Even if affected locations are located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of implementing the proposed amendments to affect the operations of the airport. Thus, the proposed project is not

expected to expose people residing or working in the project vicinities to excessive noise levels. See also the response to item XII.a).

Based upon these considerations, significant adverse noise impacts are not expected from the implementation of the proposed project and are not further evaluated in this final EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII. a) Because no construction activities are associated with the proposed project, no additional labor or workers would be required. Further, the proposed project is not anticipated to generate any significant effects, either direct or indirect, on the District's population or population distribution as no additional workers are anticipated to be required at the facilities that choose to implement ECRPs. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing the proposed project. As such, implementation of the proposed project will not result in changes in population densities or induce significant growth in population.

XIII. b) Because the proposed project may affect facilities primarily located in existing commercial areas, the proposed project is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people elsewhere.

Based upon these considerations, significant adverse population and housing impacts are not expected from the implementation of the proposed project and are not further evaluated in this final EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and cause no adverse physical change to the environment. The proposed amendments are expected to primarily affect already existing workplaces. No new equipment is expected to be installed as a result of the proposed project. Therefore, no increase in the risk of fire is expected to occur. Because no physical modifications or changes associated with the Rule 2202 requirements through adjustments to the ECRP Guidelines are expected, no flammable

substances are necessary to comply. As such, the proposed project will not increase the chances for fires or explosions that could affect local fire departments. Finally, the proposed project is not expected to increase the need for security at affected facilities, which could adversely affect local police departments.

Because the proposed project does not require or involve the use of new hazardous materials or generate new hazardous waste, it will not generate an emergency situation that would require additional fire or police protection, or impact acceptable service ratios or response times.

XIV. c), d), & e) As indicated in discussion under item XIII. Population and Housing, implementing the proposed project would not induce population growth or dispersion because no additional operational or construction workers are expected to be needed at the existing affected facilities. Therefore, with no increase in local population anticipated as a result of adopting and implementing the proposed project, additional demand for new or expanded schools or parks is also not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of the proposed project and are not further evaluated in this final EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV. a) & b) As discussed under “Land Use and Planning” (Section X) above, there are no provisions in the proposed project that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of the proposed project, which only affords employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and requires no new control equipment or physical changes to the environment. Further, the proposed project would not affect District population growth or distribution (see “Population and Housing”- Section XIII) in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed project. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE.				
Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI. a) & b) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and causes no adverse physical changes to the environment. The proposed amendments are expected to primarily affect already existing workplaces. Because the automobiles that comprise fleets have finite lifetimes, they will ultimately have to be replaced at the end of its useful life. Existing programs have already been established and are in place to be

able to recycle automobiles at the end of their useful life, such as programs using funds generated from AB2766 and appropriated by the Mobile Source Air Pollution Reduction Review Committee (MSRC), CARB’s Enhanced Fleet Modernization Program, SCAQMD’s High Emitter Repair or Scrap (HEROS) program, etc. Therefore, any solid or hazardous waste impacts specifically associated with the proposed amendments are expected to be minor. As a result, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur. Sanitation districts forecast future landfill capacity and encourage recycling. Any portions of the older fleet vehicles that cannot be recycled are expected to be able to be disposed of in the available landfill capacity. Additionally, no construction is anticipated as a result of the proposed project. Therefore, no construction waste will be generated. The proposed project is not expected to increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, the proposed project is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing the proposed project is not expected to interfere with any affected facility’s ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and continue to reduce the AVR at affected facilities that will assist in easing traffic and congestion. As a result, the proposed project may result in an increased amount of ridesharing (elimination of single passenger vehicles) in the general traffic circulation system. Additionally, new vehicles that are purchased and utilized as part of a worksite fleet will be replacing older, higher emitting gasoline combustion engine vehicles, so no near-term change in traffic and congestion is expected. With population growth over time, more vehicles would be expected, however, not due to the proposed project. Further, the proposed project would not cause a change in traffic since the proposed amendments only affect worksite fleets. Therefore, implementation of the proposed project would not result in a net change or cause additional transportation demands or services. Similarly, the implementation of the proposed project is not expected to adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities.

Implementation of the proposed project would not require any construction activities at the affected facilities that choose to take advantage of the ECRP. Therefore, no additional worker vehicle trips or equipment delivery trips would be necessary as a result of the proposed project.

Since no construction-related trips and no additional operational-related trips per facility are anticipated, the adoption of the proposed project is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. Since no construction is required at the affected facilities, no construction traffic impacts are anticipated based on the analysis conducted.

XVII. c) Adoption of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and will not require operators of existing facilities to construct buildings or other structures that could interfere with flight patterns, so the height and appearance of the existing structures are not expected to change. Therefore, implementation of the proposed project is not expected to adversely affect air traffic patterns. Further, the proposed project will not affect in any way air traffic in the region because it will not require transport of any materials by air.

XVII. d) No physical modifications to roadways are expected to occur by implementing the proposed project. Therefore, no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or new incompatible uses.

XVII. e) No physical changes are expected to occur at the already existing workplaces affected by the proposed amendments to the ECRP Guidelines. As a result, the proposed project is not expected to adversely impact existing emergency access.

XVII. f) Implementation of the proposed project will afford employers additional incentives to comply with the Rule 2202 requirements through adjustments to the ECRP Guidelines and will continue to reduce the number of vehicles at worksites. Thus, no changes to the parking capacity at or in the vicinity of the affected facilities are expected. Therefore, no shortage of parking spaces is expected. Additionally, as the proposed amendments incentivize ridesharing,

additional parking spaces may become available at affected facilities as a result of the proposed project. Further, the proposed project is not expected to require additional operational workers, so additional parking capacity will not be required. Therefore, the proposed project is not expected to adversely impact on- or off-site parking capacity. The proposed project has no provisions that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, the proposed project is not expected to generate significant adverse project-specific or cumulative transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. a) As discussed in the “Biological Resources” section, the proposed project is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the proposed amendments are expected to be located in existing commercial areas which have already been greatly disturbed and that currently do not support such habitats. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the facilities potentially affected by the proposed project.

XVIII. b) Based on the foregoing analyses, cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project are not expected to adversely impact any environmental topic. Related projects to the currently proposed project include existing and proposed amended rules and regulations, as well as AQMP control measures, which produce emission reductions from most industrial and commercial sectors. Furthermore, because the proposed project does not generate significant project-specific impacts, cumulative impacts are not considered to be "cumulatively considerable" as defined by CEQA guidelines §15065(a)(3). For example, the environmental topics checked ‘No Impact’ (e.g., aesthetics, agriculture resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed amended rules and regulations, and AQMP control measures is an overall reduction in District-wide emissions, thus, contributing to the attainment of state and national ambient air quality standards. Therefore, it is concluded that the proposed project has no potential for significant cumulative or cumulatively considerable impacts in any environmental areas. See Section III c) for more discussion on cumulative impacts.

XVIII. c) Based on the foregoing analyses, the proposed project is not expected to cause significant adverse effects to human beings. Significant adverse environmental impacts are not expected from the implementation of the proposed project. Based on the preceding analyses, no significant adverse impacts to aesthetics, agriculture resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic are expected as a result of the implementation of the proposed project.

As discussed in items I through XVIII above, the proposed project would have no potential to cause significant adverse environmental effects.

APPENDIX A

**RULE 2202 ON-ROAD MOTOR VEHICLE MITIGATION
OPTIONS**

**EMPLOYEE COMMUTE REDUCTION PROGRAM
GUIDELINES**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Proposed Amendments to

RULE 2202 – ON-ROAD MOTOR VEHICLE MITIGATION OPTIONS

EMPLOYEE COMMUTE REDUCTION PROGRAM GUIDELINES

~~October 7, 2011~~ May 1, 2015

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PREFACE

Implementation of an Employee Commute Reduction Program (ECRP) is strictly optional under Rule 2202. This program is designed to meet ambient air quality standards mandated by the Federal Clean Air Act. As an indirect mobile source emission control strategy it is intended to reduce vehicle miles traveled and increase the average vehicle ridership (AVR) of work related trips at subject worksites.

Rule 2202 and the guidelines for the ECRP are consistent with the Health and Safety Code §40717 which establishes compliance requirements for California transportation performance standards.

This document has been prepared to assist employers in understanding the development and implementation requirements of the ECRP at their worksites. The ECRP focuses on reducing work related vehicle trips and vehicle miles traveled to a worksite with the purpose of achieving and maintaining the employers' designated AVR targets.

SCAQMD staff is available to answer questions and to provide assistance to employers who are developing and implementing programs. The entire guidance document should be read in order to fully understand the program requirements. Direct any questions concerning these guidelines to the Transportation Programs Hotline at (909) 396-3271.

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I. PROGRAM OVERVIEW

A. INTRODUCTION

Rule 2202 ~~has been~~ is designed to reduce mobile source emissions from employee commutes. The Rule provides employers with a menu of emission reduction strategies that ~~employers can be implemented~~ to meet ~~an~~ the designated emission reduction target (ERT) for their worksite. As an alternative to meeting an ERT, Rule 2202 also allows employers the option to implement an Employee Commute Reduction Program (ECRP) that meets the rule exemption requirements. The implementation of an ECRP is expected to lead to achievement and maintenance of the employer's designated average vehicle ridership (AVR) target, determined by the worksite's AVR Performance Zone pursuant to Rule 2202 (1)(3), by reducing the number of through the reduction of work related vehicle trips.

B. APPLICABILITY

This program can be implemented by any employer that employs 250 or more employees at a worksite, on a full or part-time basis, calculated as a monthly average over the prior six consecutive months. Each monthly employee population for the prior consecutive six months is added and then divided by six to determine whether the employer's average employee population figure is 250 or more.

1. Program Notification

Employers with 250 or more employees upon becoming subject to Rule 2202 shall notify the SCAQMD in writing within 30 days and include the following information:

- a. Employer's name;
- b. Worksite and mailing address of the business;
- c. Name, title, phone number, and email address of the highest ranking official at the worksite;
- d. Name, title, phone number, and email address for a contact person at the worksite; and
- e. Number of employees at the worksite.

Once the employer has notified the SCAQMD, within 90 calendar days from ~~the date of notifying the SCAQMD that notification~~, the employer must submit an initial ~~Annual Employee Commute Reduction Program ECRP~~, if ~~such a that~~ compliance option is chosen.

Any employer that is subject to Rule 2202 ~~and but~~ fails to notify the SCAQMD within 30 calendar days of becoming subject to the rule will be subject to the Failure to Notify Surcharge as set forth in Rule 308 – On-Road Motor Vehicle Mitigation Options Fees and may be subject to civil or criminal enforcement action ~~for failure to notify AQMD~~ (see Figure 1).

C. TYPES OF EMPLOYEE COMMUTE REDUCTION PROGRAMS

On the program due date, or within 90 calendar days of becoming subject to the Rule, an employer choosing to comply through this option must submit one of the following ECRP ~~Annual Program~~ programs:

- a. A single-site employer must submit a single site ECRP.
- b. A multi-site employer may submit either a Multi-Site ECRP, separate single site programs, or a combination of multi-site and single site programs.

D. PROGRAM SUBMITTAL SCHEDULE

Employers must submit an ~~Annual Program on an~~ ECRP by the established ~~submittal due~~ date. The ~~Annual Program~~ ECRP reports the AVR status for the current year and, when not achieving the target AVR, an implementation plan that will achieve or make progress toward the AVR target performance requirement for the worksite. Worksites included in a Multi-Site program submittal must all have the same annual due date and be located within the same AVR Performance Zone. Annual due dates shall remain permanent unless modified by the Executive Officer or designee or a written request to change the due date is submitted by the employer and approved in writing by the SCAQMD.

E. ~~PROGRAM ELEMENTS TYPES~~

An ECRP that reports the results of an AVR data collection method and calculation, and/or a plan that the employer will implement to meet the AVR target, must be submitted to the SCAQMD by the program due date. ECRPs must be submitted in the format approved by SCAQMD and include the following elements:

1. Single Site Program

- a. A management commitment endorsed by the highest-ranking official at the worksite or the person responsible for allocating the resources necessary to implement the program. This endorsement shall include a commitment to fully implement the program and that all data in the program is accurate to the best of the employer's knowledge. The endorsement, commitment, and signature line can be found in the ~~Annual Program ECRP~~ compliance forms;
- b. The name of the Employee Transportation Coordinator (ETC), On-site Coordinator, and/or Consultant ETC;
- c. The name of the worksite contact person, if different from the ETC;
- d. The number of employees that begin work during a typical work week within the peak commute window;
- ~~e-e.~~ The AVR calculation and AVR data collection method;
- ~~d-f.~~ Specific strategies as defined in section II.F. Good Faith Effort Determination Elements, the employer will provide to employees implement;
- ~~e.~~ The number of employees that begin work during a typical work week within the peak commute window; and,
- ~~f.~~ A marketing program which ensures all employees are regularly informed of the ECRP details.

- g. Emission credit offset calculations and the emission reduction credit amounts or the Air Quality Investment Program (AQIP) fee amount required to meet the worksite AVR target if the option in Rule 2202 (1)(3)(A) is selected; and,
- h. Any applicable supporting documentation.

2. Multi-Site Program

In addition to submitting the elements described above for each worksite, employers submitting Multi-Site ECRPs shall submit a matrix that identifies ~~those specific~~ strategies offered at each individual worksites. Worksites can only be added to or removed from a multi-site program during the annual submittal or a program amendment submittal. New worksites may be added to a multi-site program provided the multi-site submittal is within the 90 calendar days specified for new worksites in section I.B. Applicability; otherwise new worksites shall remain as a single site program until the appropriate time to become part of the multi-site program.

Employers submitting Multi-Site ECRPs ~~may~~should consider the following:

- a. The option of aggregating AVR for worksite submittals located within the same AVR Performance Zone, as described in section II.D. Aggregating AVR for Multi-site Employers;
- b. In lieu of attaining the designated AVR at each employer worksite, ~~total surplus vehicle reductions (TSVR) from sites in the multi-site plan that exceed their designated AVR may be credited towards an employer's worksite that has a total vehicle reduction shortfall (TVRS) not met the target AVR for those worksites located within the same AVR Performance Zone. (Refer to section II.D. Aggregating AVR for Multi-Site Employers);~~
- c. Implementation of a Centralized Rideshare Service Center (CRSC) in lieu of having a trained ETC at each worksite in the multi-site plan (refer to section III.C. Centralized Rideshare Service Center);
- d. Designation of On-Site Coordinators for each worksite; and/or,
- e. The option of voluntarily including worksites with fewer than 250 worksite employees in the aggregated AVR and/or employees of other businesses located at the worksite not subject to the Rule ~~as described in section II.D. Aggregating AVR for Multi-site Employers.~~

~~F. ANNUAL PROGRAM~~

~~The Annual Program must be submitted in the appropriate format, approved by AQMD, and include the following:~~

- ~~a. AVR data collection method;~~
- ~~b. AVR calculation;~~
- ~~c. Emission credit offset calculations and the emission reduction credit amounts that are required to meet the worksite performance requirements if the option in subparagraph (m)(3)(A) of the rule is selected;~~
- ~~d. Name of the certified ETC responsible for developing and implementing the worksite ECRP;~~
- ~~e. Strategies offered to employees;~~

- f. ~~Signed endorsement by the highest ranking official or the person responsible for allocating the resources necessary to implement the program declaring that all strategies listed in the approved program were offered to employees; and~~
- g. ~~Any applicable supporting documentation.~~

~~If the Annual Program submittal indicates that the designated AVR was not achieved, AQMD staff will contact the employer to recommend how to improve the program. Alternatively, the employer may refer to the section V. *Employee Commute Reduction Strategies* for other strategies that could be included in the program.~~

~~G. HIGH AVR NO-FAULT INSPECTION~~

~~1. High AVR No-Fault Inspection Requirements~~

3. High AVR Program

~~Any worksite that requests and passes a High AVR No-Fault Inspection submitting a High AVR Program, one that meets or exceeds the target AVR, is eligible for a the reduced annual filing fees established in Rule 308 (c)(1)(A) and (c)(1)(B). To qualify, the following conditions must be met:~~

- a. ~~The annual employee survey must be conducted and the resulting AVR calculation must meet or exceed the designated target AVR;~~
- b. ~~It cannot be a first-time submittal resulting from a change of ownership as described in section IV.C. *Change of Ownership* unless the new owners submit a commitment letter which states they will continue to implement the previous owners ~~program~~ ECRP;~~
- c. ~~The designated target AVR must be met only through the implementation of an ECRP and cannot be met using emission credits or AQIP fees; and,~~
- d. ~~The ECRP must be marketed and implemented as described in the Annual Program submittal; and,~~
- e. ~~The High AVR No-Fault Inspection must be scheduled no less than two months prior to the submittal due date.~~
- d. ~~The employer submits an ECRP in the format approved by SCAQMD and includes the elements describe in section I.E. *Program Types and Features*, excluding the Good Faith Effort Determination Elements.~~

~~2. Compliance Documents Submittal~~

~~Following successful completion of a High AVR No-Fault Inspection, the employer is required to submit the following documents in lieu of an Annual Program submittal described in section I.F. *Annual Program*:~~

- a. ~~A copy of the compliance commendation letter which will be given to the employer upon successful completion of the inspection; and~~
- b. ~~The worksite's AVR calculation worksheets as provided in the Annual Program forms.~~

4. AVR Improvement Program

Any worksite submitting an ECRP that has an improvement of 0.05 or greater in the worksite AVR compared to the previous compliance year submittal, or demonstrates a minimum AVR increase of 0.01 per year when compared to the previous two compliance years is eligible for a 20% reduction of the annual filing fees established in Rule 308 (c)(2) and a reduced program submittal as described in paragraph f. below. To qualify, the following conditions must be met:

- a. The annual employee survey must be conducted and the resulting AVR calculation must have an AVR increase of 0.05 or greater when compared to the previous compliance year submittal or has an AVR increase of 0.01 per year when compared to the previous two compliance years;
- b. The worksite must have an approved ECRP for the compliance years that are used for the AVR comparison as described above;
- c. The program cannot be a first-time submittal resulting from a change of ownership as described in section IV.C. *Change of Ownership* unless the new owners submit a commitment letter which states they will continue to implement the previous owners ECRP;
- d. For multi-site programs, the aggregate AVR may be used to qualify for this reduction provided that a multi-site program with an aggregated AVR that is improved in comparison to the previous compliance year or previous two years;
- e. The AVR improvement must be only through the implementation of an ECRP and cannot be met by using emission credits or AQIP fees;
- f. The employer submits an ECRP in the format approved by SCAQMD and includes the elements describe in section I.E. Program Types and Features, excluding the Good Faith Effort Determination Elements; and,
- g. The employer shall continue to implement the approved program strategies until the next program submittal that requires inclusion of strategies or submittal of a program amendment.

Examples of Qualifying and Non-Qualifying Submittals

If Employer A is submitting its ECRP in 2015 and has an AVR improvement of 0.01 every year when compared to the previous two years then it could submit an AVR Improvement Program. Employer B has an improvement of .01 when compared to the previous year, but there was a decline in AVR when compared to the submittal two years ago, it would not be eligible. If employer C has an increase of 0.05 over the previous year submittal it would be eligible. When an employer has a different program submittal option, they cannot use any prior year for the AVR Improvement, as shown by Employer D. The AVR Improvement Program examples are summarized in Table 1 below.

Table 1. AVR Improvement Program Submittal Examples

<u>Submittal Year AVR</u>	<u>2012</u>	<u>2013</u>	<u>2014</u>	<u>2015</u>	<u>AVR Improvement</u>
<u>Employer A</u>	<u>1.30</u>	<u>1.31</u>	<u>1.32</u>	<u>1.33</u>	<u>Yes</u>
<u>Employer B</u>	<u>1.30</u>	<u>1.31</u>	<u>1.30</u>	<u>1.31</u>	<u>No</u>

<u>Employer C</u>	<u>1.30</u>	<u>1.30</u>	<u>1.30</u>	<u>1.35</u>	<u>Yes</u>
<u>Employer D</u>	<u>1.29</u>	<u>1.30</u>	<u>AQIP submittal</u>	<u>1.35</u>	<u>No</u>

HF. PROGRAM ADMINISTRATION

1. Program Submittal and Compliance

All employers who choose to implement an ECRP shall submit an ~~Annual P~~ Annual program plan that will lead to the achievement and maintenance of the annual AVR ~~target performance requirement~~. Employers unable to ~~demonstrate progress towards meeting~~ increase their AVR or meet the annual AVR ~~target performance requirement~~ must submit one of the options listed in section *II.E. Annual AVR Performance Requirement*.

2. Program Implementation

Employers shall implement their ECRP within 30 days of receipt of their written program approval. An alternative program implementation date may be used if included in the Program submittal that has been approved or if otherwise stated in the written program approval. Any ECRP previously approved by the SCAQMD will remain in effect until:

- a. A new program is approved;
- b. An approved alternative is used to comply with Rule 2202;
- c. The employer receives notification from SCAQMD that they are no longer subject to the Rule; or
- d. Rule 2202 is rescinded.

IG. RECORD RETENTION REQUIREMENTS

Employers must maintain records using the following criteria:

- a. The employer must keep detailed records of the documents which verify the AVR calculation ~~for the last~~ a minimum of three compliance years.
- ~~b.~~ Records which verify that all strategies in the ECRP have been marketed and offered shall be kept at the worksite for at least the last a minimum of three compliance years. Examples of records include but are not limited to: AVR calculation data; employee surveys; marketing materials; meeting agendas; proof of incentive purchases and distributions; and/or, plug-in hybrid electric vehicle (PHEV) type and home to work trip distances for the zero emission AVR credit.
- ~~b.c.~~ Employers who have a qualifying AVR Improvement Program shall keep all records at the worksite, records as specified in paragraph b above, of the most recently approved ECRP which describes the good faith effort determination elements. This may require maintaining records longer than the minimum three compliance years as specified in paragraphs a and b above.
- ~~d.~~ Employers who implement their programs using a Centralized Rideshare Service Center (CRSC) as described in section III.C., ~~must shall~~ maintain records and documents at the CRSC, unless, upon written approval by the Executive Officer or designee, other record retention arrangements have been made.

e.e. Records may be maintained electronically provided that the materials can be viewed by commonly available software.

JH. COMPLIANCE

~~Failure to comply with any provisions of this Rule or this ECRP Guideline document, including but not limited to, failure to maintain records, falsification of records, failure to submit an Annual Program, failure to submit proper fees in accordance with the provisions of Rule 308 - On Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates, and/or failure to submit a management commitment verifying implementation of the program as approved by the AQMD is a violation of Rule 2202 and is subject to the penalties outlined in the Health and Safety Code Section §42400 et seq. Examples of violations include, but are not limited to:~~

- a. Failure to maintain records as described in section G. Record Retention Requirements;
- b. Falsification of records;
- c. Failure to submit an annual program;
- d. Failure to submit proper fees in accordance with the provisions of Rule 308 - On-Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates;
- e. Failure to submit a management commitment verifying implementation of the program as approved by the SCAQMD, and/or;
- f. Failure to implement components of an approved annual program.

- ~~a. The AQMD will not impose any requirements that are not a part of Rule 2202, Rule 308, Rule 311, or Rule 313.~~
- ~~b. The AQMD may only request information to the extent that it is reasonably necessary to determine compliance with these rules.~~

The SCAQMD will not impose any ECRP requirements that are not a part of Rule 2202, the ECRP Guidelines, Rule 308, Rule 311, or Rule 313, and will only request information to determine compliance with these rules.

If a final determination that an element of an approved ECRP violates any provision of law is issued by any agency or court with jurisdiction to make such determination, then the employer shall, within 45 calendar days, submit a proposed program revision to the SCAQMD which shall be designed to achieve an AVR equivalent to the previously approved program.

II. PROGRAM IMPLEMENTATION

A. PROGRAM REVIEW

The SCAQMD staff will review ECRPs using the following criteria:

- a. ECRPs will be approved provided the program complies with all requirements of Rule 2202, these ECRP Guidelines, Rule 308 - On-Road Motor Vehicle Mitigation Options Fees, Rule 311 - Air Quality Investment Program (AQIP) Fees, and Rule 313 - Authority to Adjust Fees and Due Dates;

- b. Employer continues to demonstrate a good faith effort towards achieving the target AVR or has made appropriate changes/additions to the strategies when AVRs have declined or remained consistently low. Program submittals which fail to show an overall improvement in AVR from the previously submitted ~~Annual Program ECRP~~ and do not provide revisions or additions to the strategy section are not considered to be a good faith effort on the part of the employer and may not be approved as submitted;
- c. Within 90 calendar days of receipt of the program submittal, the SCAQMD will in writing, approve, preliminarily disapprove the program, or request up to 30 additional days to review the program, indicating to the employer the reasons for requiring additional review time;
- d. If a program is not approved or disapproved within 90 calendar days, or if the SCAQMD has not requested additional review time, the program shall be deemed approved;
- e. ~~Prior to disapproving~~ After the employer submits an program ECRP, the SCAQMD will contact the employer to provide an opportunity to discuss any program inadequacies; and,
- f. If these inadequacies are not addressed, the SCAQMD will preliminarily disapprove the ECRP and provide in writing the reasons for the preliminary disapproval;
 1. Any ECRP preliminarily disapproval by the SCAQMD must be revised by the employer and resubmitted within 30 calendar days of receipt of the notice of the preliminary disapproval;
 2. The SCAQMD has 90 calendar days to approve or issue a final disapproval of the resubmitted ECRP;
 3. If a notice of final disapproval is given, the employer will be in violation of Rule 2202 until a revised ECRP is submitted and approved by the SCAQMD or a successful appeal is taken, in accordance with Rule 216 – Appeals, to the Hearing Board.
- ~~f. If a program is disapproved, the reasons for disapproval will be given in writing to the employer. Any program disapproved by the AQMD must be revised by the employer and resubmitted to the AQMD within 30 calendar days of receipt of the notice of disapproval. The AQMD has 90 calendar days to review the resubmitted program. If a second disapproval notice is given, the employer is in violation of Rule 2202 until a revised program is submitted and approved by the AQMD; and~~
- ~~g. An ECRP will be disapproved if the program demonstrates a disproportionate impact on minorities, women, low-income or disabled employees.~~

B. CALCULATING AVR

1. Employee Categories

Employees that do not begin work at least one day during the 6:00 a.m. - 10:00 a.m. peak commute window are not included in the peak AVR calculation. Employees that are classified in the “Other Days Off” category are included in the AVR calculation if they begin work in the window at least one day during the survey week. The net effect of “Other Days Off” on the AVR calculation will be neutral. Employees in this category include, but are not limited to, the following:

- employees on vacation, sick, or furlough;
- employees on per-diem or on-call that do not meet the definition of field personnel;

- employees on jury duty, military duty;
- employees who begin work outside the window provided they begin in the window at least one other day during the week;
- employees not scheduled to work that day;
- employees that are home dispatched;
- employees on maternity leave;
- employees on bereavement leave; and/or
- employees on medical /disability leave.

The following employee categories, as defined in the Glossary, are not considered for rule applicability or in calculating AVR:

- temporary employees;
- seasonal employees;
- volunteers;
- field personnel;
- field construction workers; and/or
- independent contractors.

2. Police, Sheriff, and Federal Field Agents

Police, Sheriff, and Federal Field Agents, as defined in the Glossary, are included for rule applicability but are not required to be included in the 6:00 a.m. - 10:00 a.m. peak window surveyed or included in the AVR calculation. It is the discretion of the employer whether to include them in the window count. Surveying only part of this group is not acceptable. Those worksites electing to exclude such employees from the AVR survey and calculation must provide the basic ridesharing support strategies including, but not limited to, ride matching and transit information for all employees as well as preferential parking and guaranteed return trips for employees who are ridesharing. Employees who perform non-field work or non-investigative functions are required to be included in the peak window survey ~~or~~ and included in the AVR calculation. Examples of Federal Field Agents include, but are not limited to, field employees of the Federal Bureau of Investigation (FBI), Customs and Border Protection or US Coast Guard.

3. AVR Adjustments

- a. Carpools are counted as 2-6 people traveling together for ~~the majority (51%)~~ of the total trip distance. The credit is given by dividing the total weekly number of occupants in the vehicle by the maximum occupancy in the vehicle.
- b. Vanpools are counted as 7-15 people traveling together for ~~the majority (51%)~~ of the total trip distance. The credit is given by dividing the total weekly number of occupants in the vehicle by the maximum occupancy in the vehicle.
- c. Employees walking, bicycling, telecommuting, using public transit, using a zero emissions vehicle (ZEV) or other vehicles as approved by the Executive Officer or designee, or on their day off under a compressed work week, should be counted as employees arriving at the worksite with no vehicle.

- i. Carpool occupants of a ZEV may be counted as arriving at the worksite with no vehicle by marking the zero emission option on the AVR survey.
 - ii. Employees arriving to work in a plug-in hybrid electric vehicle (PHEV) can be considered to be using a ZEV provided that the entire home-to-work trip is made exclusively under electric power without use of the gasoline engine or cogeneration system.
 - iii. None of the employee ZEVs can be included in the AVR calculation if the employer has implemented a ZEV charging program that will result in the generation of emission reduction credits pursuant to Rule 2202 (f)(6) or other approved SCAQMD emission credit programs.
- d. Compressed Work Week (CWW) credit will only be granted when all days worked and all CWW days off fall within the established AVR survey period.

Employers may develop alternatives to the recognized compressed work week schedules of 3/36, 4/40, and 9/80 upon written approval by the SCAQMD. The proposed alternative must ensure that the resulting trip reductions are real, surplus, quantifiable, and enforceable.

The types of CWW day(s) off must be clearly indicated on the AVR survey as follows:

- i. 3/36 - 3 days work, 12 hours per day, 2 days off during the survey week;
- ii. 4/40 - 4 days work, 10 hours per day, 1 day off during the survey week; or
- iii. 9/80 - 9 days work, 80 hours per two weeks, 1 day off in a 2 week period during the survey.

If a person on a 3/36 scheduled work week works a 4th day during the established work week, an employer may take credit for one (1) CWW day off.

- e. Non-commuting AVR credit is allowed for employees who remain at the worksite (if in the SCAQMD's jurisdiction), or entirely out of the SCAQMD's jurisdiction, for at least a full 24-hour period, to complete work assignments, and who generate no vehicle trips during the AVR window associated with arriving at the worksite. Non-commuting AVR credit is calculated as arriving at the worksite with no vehicle. Examples of employees who may be considered to be in this category are firemen, airline pilots, or flight attendants.
- f. AVR credit for all employees leaving the worksite, during the window, may be calculated and averaged with employees arriving at the worksite during the window to obtain an aggregate AVR. However, if Off-Peak Credits are used in the AVR calculation this credit cannot be used.
- g. Off-Peak Credits - Employers may receive additional credits from employee trip reductions that occur outside of the peak window. An AVR survey or an alternative approved data collection method is required to obtain this data. This AVR survey cannot be older than 6 months at the time of program submittal. This credit may be calculated as follows:

$$AVR = \frac{E}{V - [CCVR \div 2.3]}$$

Where:

E = Total number of weekly window employees in the peak window.

V = Total number of weekly window vehicle trips in the peak window.

CCVR = Creditable commute vehicle reductions that occur outside of the peak window.

2.3 = Discount factor.

- h. Non-Regulated Worksite Credits - Employers may voluntarily include worksites with less than 250 employees as described in section *II.D. Aggregating AVR for Multi-site Employers* and/or employees of other businesses located at the worksite not subject to the Rule.
- i. Reduced Staffing - Employers may receive additional trip reduction credits, that have been discounted, from reduced staffing that occurs during events that are longer than five consecutive work days, such as school recesses/breaks, inventory, or temporary facility closures, as approved by SCAQMD. A separate AVR survey ~~may be~~ is required to obtain this data. This AVR survey cannot be older than 12 months old at the time of program submittal. This credit is not allowed for staff reductions resulting from actions such as layoffs, relocations, transfers, facility closures or temporary closures that are part of regularly schedule facility vacations. This credit may be calculated as follows:

$$AVR = \frac{E \times T}{[V_n \times T_n] + [V_r \times T_r \times 1.15]}$$

Where:

E = Total number of weekly window employees during the regular operating schedule.

T = Total number of annual operating workdays for the worksite, which is the sum of T_n and T_r. For example, the default value is 260 days for employers with a 5 day work schedule, and a default value of 365 days for a 7 day work schedule.

V_n = Total number of weekly window vehicle trips during the regular operating schedule.

T_n = Total number of regularly scheduled operating days for the worksite.

V_r = Total number of weekly window vehicle trips that occur during the reduced staffing schedule.

T_r = Total number of reduced staffing schedule days.

1.15 = Discount factor.

The same methodology used for determining the total number of annual workdays for the worksite (T) shall be applied to determine the values for T_n and T_r.

- j. Employees that begin work during the window and do not respond to the survey must be calculated as one employee per vehicle arriving at the worksite.
- k. Drive alones count as one person per vehicle arriving at the worksite.
- l. Reporting errors resulting from missing or incorrect information must be calculated as one employee per vehicle arriving at the worksite. Reporting errors that do not indicate

the time when the employee begins work must be assumed to occur in the peak window.

C. AVR DATA COLLECTION METHODS

Each employer must collect AVR data by one of the following applicable methods:

1. AVR Survey

Employers must conduct an AVR survey approved by the SCAQMD. The survey should be taken over five consecutive workdays, Monday through Friday, and identify the transportation modes that employees use to travel to the worksite and begin work during the 6:00 a.m. - 10:00 a.m. window, each day during the survey week. The AVR survey data must be available and traceable to an individual employee. This may be through employee identification numbers, employee signature, or a pre-approved ~~alternative~~-electronic ~~individual~~-identifier specific to each employee. The surveys ~~should~~ shall be distributed at the end of or following the planned survey week so that the survey responses will represent actual commute activity. An SCAQMD approved employee survey form can be found in the ~~Annual Program~~ ECRP forms.

a) AVR Survey Parameters

The AVR survey data cannot be more than six months old at the time of program submittal. The six month period begins on the final day of the survey period. The response rate to the survey must be at least 60 percent of those employees who begin work during the window. The remaining non-responses over 60 percent to 100 percent shall be treated as single occupant vehicle commuters, however, if an employer achieves a 90 percent response rate or higher, the remaining non-response percentage can be reported in the “Other Days Off” category. The net effect on the AVR calculation will be neutral. The AVR survey must be conducted during a typical work week. The weeks to be specifically excluded from the AVR survey week are the weeks including the following dates:

New Year's Day	January	1
Martin Luther King Jr. Birthday	January	(Third Monday)
Presidents Day	February	(Third Monday)
Memorial Day	May	(Last Monday)
Independence Day	July	4
Labor Day	September	(First Monday)
California Rideshare Week	October	(First Week)
Veteran's Day	November	11
Thanksgiving Day	November	(Fourth Thursday)
Christmas Day	December	25

AVR surveys shall not be conducted during these weeks even ~~though~~ if the employer does not observe these holidays or is open for business. Nor shall employers conduct an AVR survey during a week in which they observe a holiday not listed above.

The days these holidays are observed may vary from year to year; therefore, it will be the responsibility of the employer to obtain these specific holiday dates to ensure exclusion of these weeks from their AVR survey week.

Each employer should encourage employee involvement in either of the following ways:

- i. ~~Through an employee survey that includes questions soliciting suggestions for program improvement and/or strategies which may be used for ECRP development;~~
- or
- ii. ~~An employer may implement a program which actively involves employees, such as focus groups, employee committees, etc.~~

b) Window Period for AVR Calculation

The employer must calculate the AVR based on the 6:00 a.m. - 10:00 a.m., Monday through Friday window except for businesses operating seven days a week. The AVR window for businesses operating seven days a week is 6:00 a.m. - 10:00 a.m. and the AVR reporting period is the five consecutive days, of the seven operating days, when the majority of the employees are scheduled to ~~report to~~ begin work. Businesses operating seven days a week may survey over a seven day period so that for purposes of AVR reporting, they will account for individual employees over that portion of their five day work week that falls within the five consecutive days.

The employer may use an alternative window or week upon writing the SCAQMD and receiving written approval. The alternative window must be a consecutive four hour period between 4:00 a.m. and 11:00 a.m. and a consecutive five day period of the seven day week when the majority of their employees are scheduled to report to the worksite in the peak window. Consequently, the reporting period must be the same five consecutive days for all employees included in the AVR calculation.

c) AVR Calculation

The AVR calculation is based on data obtained from an approved SCAQMD survey method, random sampling, or recordkeeping, and ~~should~~ shall include all employees who begin work in the 6:00 a.m. - 10:00 a.m. window.

The AVR is calculated by dividing the number of employees who report to the worksite, by the number of vehicles that arrive at the worksite, during the five day window period. The AVR figure should be rounded off to the second decimal place. For example: 1.4576 becomes 1.46 AVR.

2. Random Sampling

Employers with a minimum of 400 employees reporting ~~at to~~ to the worksite during the peak window, have the option of determining AVR by a random sample method. The random sample method and sample size must receive written approval from the SCAQMD prior to administration of the survey. The random sample method ~~should~~ shall comply with all of the following criteria:

- a. Members of the sample must be selected on a probability basis (random selection) that assures that each population member is given an equal chance of selection;
- b. All employees reporting in the window for calculating AVR must be considered as the relevant population from which the sample is drawn;

- c. The sample must measure all potential commute modes for employees arriving at the worksite during the window and shall account for all employees not arriving at the worksite during the window due to compressed workweek day off, vacation, sick leave, furlough day, or other (e.g., maternity leave, bereavement leave, etc.);
- d. Any employees designated for the random sample that do not respond to the survey are counted as solo drivers;
- e. At least 60 percent survey response rate must be achieved;
- ~~f. The sample size must be determined with the AQMD's approval of sampling method;~~
- ~~g.f.~~ Data from the last three compliance years shall be kept at the worksite and available for inspection;
- ~~h.g.~~ Any data submitted via electronic media must be compatible with SCAQMD's software and must be able to be entered into AQMD's system;
- ~~i.h.~~ The random sample survey must be taken not more than six months prior to submittal of the Annual Program, with the six month period beginning on the last day of the survey week; and
- ~~j.~~ The random sample method must receive written approval from the AQMD prior to administration of the survey; and
- ~~k.i.~~ The random sample method must be re-certified 60 calendar days prior to the program due date, only when the employer proposes to modify its approved certification method or upon amendments to Rule 2202 or guidelines that changes AVR data collection, calculations or methodologies.

3. Alternative AVR Data Collection

~~The AQMD must pre approve and certify alternative AVR data collection methods as complying with these guidelines. Employers, vendors, consultants, or other entities requesting certification for alternative AVR data collection methods must request certification at least 60 calendar days prior to the annual registration due date. Once the certification method is approved, re-certification is required 60 calendar days prior to the established due date, only when the employer proposes to modify its approved certification method or upon modifications to Rule 2202 that change AVR collection methods or methodologies. The AQMD will review and respond to the request within 14 calendar days. Certification will only be granted for those AVR data collection methods that comply with these guidelines.~~

Employers have the option of selecting an alternative AVR data collection method for ~~verifying calculating the worksite AVR, as long as it complies with all of the following criteria:~~ Alternative AVR data collection methods must be certified by the SCAQMD prior to use, in accordance with the ECRP guidelines and the following criteria:

- a. Employers, vendors, consultants, or other entities requesting certification for alternative AVR data collection methods must request certification at least 60 calendar days prior to the annual ECRP due date;
- ~~a.b.~~ Data must be gathered from all employees who begin work during the window;
- ~~b.c.~~ The response rate to the data collection method must be at least 60 percent of those employees who begin work during the peak window. The remaining non-responses over 60 percent to 89 percent shall be treated as single occupant vehicle commuters. However, if an employer achieves a 90 percent response rate or higher, the remaining

non-response percentage can be reported in the “Other Days Off” category in the AVR calculation;

- ~~e.d.~~ The data collected must reflect the daily commuting activity of employees and their modes of travel that occur during each month or quarter of the program cycle;
- ~~d.e.~~ Quarterly or monthly AVR must be calculated separately, and must be aggregated to determine the yearly AVR calculation;
- ~~e.f.~~ Data from the last three compliance years shall be kept at the worksite and be made available upon request;
- ~~f.g.~~ The following data must be available, and traceable to individual employee records: travel mode for each day data is collected; any data that is specified in ~~the section on~~ II.C. AVR Data Collection Methods; and, employee ID number or other individual identification;
- ~~g.h.~~ Any data submitted via electronic media must be compatible with the SCAQMD’s software;
- ~~h.i.~~ The data used for the AVR calculations cannot be more than six months old, with the six month period beginning on the last day of the survey week; and
- ~~i.~~ ~~The AVR data collection method must be pre-approved by the SCAQMD; and~~
- j. The ~~A~~ alternative AVR data collection method ~~must shall~~ be re-certified 60 calendar days prior to each program due date, ~~only~~ when the employer proposes to modify its approved ~~certification~~ method or upon amendments to Rule 2202 or guidelines that changes AVR data collection, calculations or methodologies.

D. AGGREGATING AVR FOR MULTI-SITE EMPLOYERS (Optional)

Employers that ~~have multiple worksites~~ submit a multi-site plan may choose to ~~submit an aggregated Annual Program that includes the AVR data for all of the regulated worksites that belong to the multi-site employer rather than submit Annual Programs for each worksite individually in that ECRP.~~ For worksites that belong to the multi-site employer, the aggregate AVR is the total number of window employees divided by the total number of vehicle trips for all the worksites in the multi-site plan. All worksites that are to be included in the ~~A~~ aggregate AVR calculation must be within the same AVR Performance Zone.

Aggregate AVR can be obtained in three steps. First, the number of peak window employees used in calculating each worksite AVR must be added. This sum will yield the total number of window employees for all worksites. Second, the number of vehicle trips used in calculating each worksite AVR must be added. This total will yield the total number of vehicle trips for all worksites. Finally, the total number of employees must be divided by the total number of vehicle trips to obtain the combined AVR for all worksites. This calculation will then yield the aggregate AVR for the multi-site employer.

Example:

$$\text{AVR} = \frac{\text{Window employees for site 1} + \text{window employees for site 2} \dots}{\text{Vehicle trips for site 1} + \text{vehicle trips for site 2} \dots}$$

Employers submitting multi-site programs may also voluntarily include worksites with fewer than 250 worksite employees in the aggregated AVR and/or employees of other businesses located at the worksite not subject to the Rule. In order to do so, all provisions of the AVR Data

Collection section must be met, and the employer must demonstrate that an AVR baseline calculation has been established. Employers at non-regulated worksites ~~do not need~~ are not required to implement other ECRP elements, such as, having an on-site ETC, or offering employer incentives ~~or~~ and good faith effort determination elements. Employers, voluntarily including worksites that have less than 250 worksite employees, must provide a letter of declaration signed by an official authorized to contract on behalf of and/or legally bind the employer which declares the following:

- a. The employer is voluntarily agreeing to subject itself to the authority and requirements of Rule 2202 for the worksites which currently have fewer than 250 employees, and that they are doing so freely and wholly voluntarily without any duress on behalf of the SCAQMD;
- b. The employer waives its right to challenge the applicability of Rule 2202 to any and all included sites within the SCAQMD should enforcement action be taken against the employer; and,
- c. The employer is receiving a benefit from ~~so~~ agreeing in that they are being allowed to claim ~~multi-site~~ vehicle trip credit toward their aggregate AVR.

E. ANNUAL AVR PERFORMANCE REQUIREMENT

Employers shall submit an ~~Annual Program ECRP~~ and demonstrate that they have met the annual average vehicle ridership ~~target performance requirement~~ for the AVR Performance Zone in which the worksite is located. Employers unable to meet the annual average vehicle ridership AVR target performance requirement and are not submitting a High AVR or AVR Improvement plan must submit:

- a. An ECRP Offset annual plan where the difference between the worksite AVR and the target AVR Performance Zone is offset through participation in the Air Quality Investment Program (AQIP) or implementation of ~~e~~Emission ~~r~~Reduction ~~s~~Strategies (ERS) in accordance with the provisions of Rule 2202; or
- b. An ECRP annual ~~Good faith effort~~ plan that includes the requirements described in section II.F. *Good Faith Effort Determination Elements* subject to the following conditions:
 - i. Unless otherwise stated, the good faith determination elements must be implemented such that they are reasonably likely to improve a worksite AVR by at least 0.01 annually. Employers must continue to demonstrate a good faith effort toward achieving the AVR target.
 - ii. If a worksite AVR decreases, remains the same, or does not improve from the previously submitted ECRP, the selection of strategies must be modified, the number of strategies increased, or an ECRP offset, AQIP, or ERS be implemented.
 - iii. Employers shall ~~maintain~~ implement all currently approved good faith effort plan strategies until a new Annual Program ECRP is approved.
 - iv. Employers may choose to implement programs or strategies offered by third party service providers (e.g., County Transportation Commissions, TMA/TMO, contracted services). If any plan strategy offered by a third party service

provider is discontinued, the employer shall continue to implement the discontinued strategy or amend the plan.

- ~~iii. If any plan strategy offered by a third party service provider is discontinued, the employer shall continue to implement the discontinued strategy or amend the program.~~
- ~~iv.v. Deletion or substitution of any plan strategies is not allowed unless approved by the Executive Officer or designee in writing.~~
- ~~v. Unless otherwise stated, strategies must be implemented such that they are reasonably likely to improve a worksite AVR. Employers must continue to demonstrate a good faith effort toward achieving the AVR performance requirement. If a worksite AVR decreases, remains the same, or does not improve from the previously submitted Annual Program, the selection of strategies must be modified, the number of strategies increased, or an ECRP offset, AQIP, or emission reduction strategy be implemented.~~

A flow chart that identifies ~~showing~~ the good faith effort determination elements and the various rule options that employers may use to comply with the Rule requirements is shown in Figure-1
2.

Rule 2202 Requirements

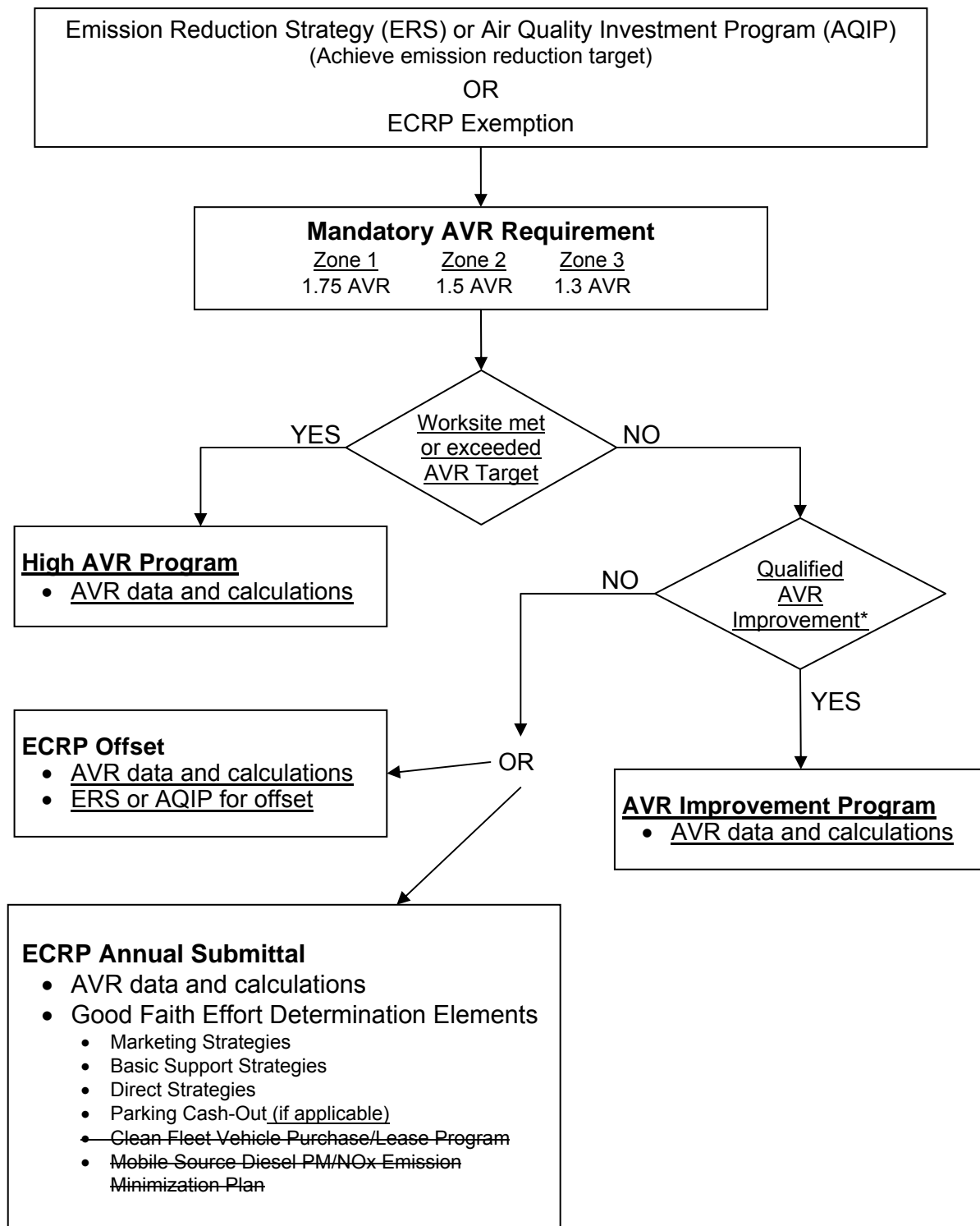


Figure 1.2. Rule 2202 Requirements – Compliance Flow Chart

~~e.r.~~ Other direct strategies that have been approved by the SCAQMD.

4. Parking Cash-out (if applicable).
- ~~5. Employer Clean Fleet Vehicles Purchase/Lease Program.~~
- ~~6. Mobile Source Diesel PM/NOx Emission Minimization Plan.~~

III. ADMINISTRATION OF THE ECRP

A. EMPLOYEE TRANSPORTATION COORDINATORS

Employers must designate an employee to serve as an Employee Transportation Coordinator (ETC) for each worksite with 250 or more employees or per Multi-Site program. This person must successfully complete an SCAQMD certified training- ETC certification course.

This training provides the individual with the necessary information to conduct the survey process, prepare and implement the program, market the program and track the program results.

Employers ~~having multiple worksites~~ submitting a multi-site program may designate an ETC at one worksite and designate On-Site Coordinators for all other worksites. The On-Site Coordinator is a person designated and instructed by the employer ~~and has to have~~ knowledge of the employer's ECRP and marketing methods. The On-Site Coordinator is ~~limited to~~ accountable for program implementation rather than plan development. The ETC or the On-site Coordinator must be at the worksite and available during normal business hours when the majority of employees are at the worksite.

In the event of an absence of a trained ETC, Consultant ETC, or On-site Coordinator, exceeding eight consecutive weeks, a replacement must be designated and trained. The SCAQMD must be notified of this change in writing by the employer within 12 weeks after the beginning of the absence.

~~The AQMD will hold periodic informational sessions regarding the most current information on rule provisions and administration of employee commute reduction programs. Attendance at these sessions is voluntary, but highly encouraged.~~

B. CONSULTANT EMPLOYEE TRANSPORTATION COORDINATOR

An employer may use a Consultant ETC in lieu of an ETC, provided the Consultant ETC meets the definition of an ETC and the same minimum certification requirements as the ETC. A Transportation Management Association/Transportation Management Organization (TMA/TMO) may be considered as a Consultant ETC provided its staff, acting in this capacity, meets the same ~~minimum~~ certification requirements as the ETC. As an alternative to having a Consultant ETC available during normal business hours, the employer shall designate an On-Site Coordinator for each worksite.

~~In the event of an absence of a trained ETC, Consultant ETC, or On-site Coordinator, exceeding eight consecutive weeks, a replacement must be designated and trained. The AQMD must be~~

~~notified of this change in writing by the employer within 12 weeks after the beginning of the absence.~~

C. ~~CENTRALIZED RIDESHARE SERVICE CENTER~~

~~The Centralized Rideshare Service Center (CRSC) is a strategy that may be used by employers submitting a Multi-Site program that will ECRP to provide equivalent services in lieu of having a certified person-ETC at each worksite in the plan. Employers must have written approval from the SCAQMD prior to implementing a CRSC. The Request for approval must include information describing the CRSC in detail and show how it will provide equivalent ETC services to the specific worksite(s).~~

~~The Request for implementing a CRSC must have include the following elements:~~

- ~~a. Identification of the CRSC location;~~
- ~~b. Descriptions of the process of employee access to rideshare information and services, including an explanation of how it will provide services equivalent to having an ETC at each worksite;~~
- ~~c. Descriptions of how each worksite will market, implement and maintain records in a manner equivalent to having an ETC or On-Site Coordinator at the worksite;~~
- ~~d. Explanations of the ETC availability and accessibility to employees affected by the program; and,~~
- ~~e. Assurance that copies of all relevant supporting program materials is maintained at the CRSC, unless, upon written approval, other record retention arrangements have been made. Program materials include, but are not limited to, all marketing materials, flyers, brochures, pamphlets, schedules, and copies of the most recently approved Multi-Site ECRPs.~~

~~SCAQMD staff will review each request on a case by case basis to determine whether the CRSC meets the following criteria:~~

- ~~a. Identifies the CRSC facility location and demonstrates availability and accessibility to the ETC by all employees;~~
- ~~b. Demonstrates that the Multi-Site ECRP is adequately marketed and implemented at each specific all included worksites; and~~
- ~~c. Ensures that all other sites in the Multi-site program submittal have identified a worksite contact person who:
 - ~~i. Has knowledge of the employer's Multi-Site ECRP;~~
 - ~~ii. Has knowledge of the employer's marketing methods; and~~
 - ~~iii. Is available to meet with SCAQMD compliance staff.~~~~

~~D. TRAINING PROVIDERS~~

~~Training Providers for ETC training programs must be certified annually unless otherwise specified by the AQMD. In order to be certified, the training providers must meet or employ instructors that meet all of the following requirements:~~

- ~~a. A current certificate as an ETC;~~

- ~~b. A bachelor's degree in Transportation Planning, Urban Planning or a related field. If the degree is not in one of these fields, the successful completion of a TDM certification program or equivalent recognized by the AQMD may be substituted;~~
- ~~c. Two years of professional training experience and three years of managerial experience in Transportation Demand Management;~~
- ~~d. Knowledge of Rule 2202, related fee rules, and other AQMD on road transportation related rules; and,~~
- ~~e. Use of a curriculum for ETC Training programs certified by the AQMD that includes, at a minimum, the development, implementation, monitoring and marketing of ECRPs; recordkeeping requirements; AVR calculations; survey techniques; and an overview of air quality laws, rules, and regulations.~~

IV. SPECIAL PROCEDURES

A. EXTENSIONS

If an employer needs more time to submit a program to meet the requirements of these Guidelines and Rule 2202, additional time may be requested from the SCAQMD. An employer may request an extension to the program due date under the following circumstances:

- ~~a. If an employer needs more time to submit a program to meet the requirements of these Guidelines and Rule 2202, additional time may be requested from the SCAQMD. The request must be in writing, state the reason for the extension request, the length of time needed, and include the appropriate filing fee, as specified in Rule 308 (n) and Rule 313 (f)(4);~~
- b. All extension requests and fees must be received by the SCAQMD, no later than 15 calendar days prior to the program due date;
- c. Requests are considered on a case-by-case basis and ~~are granted for reasons that are beyond the control of the employer~~ shall include reasonable justification for extension request, such as, but not limited to, organizational restructuring, or the unforeseen long-term absence of an ETC;
- d. An employer may request an extension to the program due date after the program has been disapproved for the first time. The request must be received within 15 calendar days of the receipt of the ~~program plan~~ disapproval. The SCAQMD will inform the employer in writing within 15 calendar days of receipt of request, whether the extension has been granted;
- e. An employer may, upon receipt of a written objection to the terms of the proposed program by an employee, employee representative or employee organization; request a single extension of 30 calendar days. A copy of the written objection should be attached to the request. One such request shall be granted by the SCAQMD; no subsequent extension may be granted for this purpose; and
- f. Any change in the permanent due date that results in additional time to submit a ~~program~~ plan will be considered an extension of time and shall be subject to ~~an~~ the extension filing fee, as specified in Rule 308 (n) and Rule 313 (f)(4).

B. PROGRAM AMENDMENTS

An approved ECRP may be amended between program submittal dates by submitting a proposed program amendment in writing to the SCAQMD along with the applicable fee. Any change to the implementation of an approved program requires an written SCAQMD approved program revision. ~~Program changes which are in effect, including but not limited to change of employee transportation coordinator at the worksite, must be submitted in writing to the AQMD. Any change that affects the attainment of the AVR and requires evaluation by AQMD staff is subject to a per worksite amendment fee. The program amendment must include the following:~~

- a. Letter of explanation of proposed amendment signed by the highest ranking official;
- b. A copy of each affected strategy page from the last approved plan;
- c. A copy of each of the proposed replacement strategy pages; and,
- d. Applicable amendment fee as specified in Rule 308.

Employers proposing changes in strategies are encouraged to consider comparable ones that will continue making progress towards attaining the target AVR. ~~The Section V. Employee Commute Reduction Strategies,~~ identifies a number of strategies that ~~could can~~ be selected to substitute for those being changed. Any previously approved ECRP shall remain in effect ~~The amendment cannot be implemented until the amendment is approved by SCAQMD in writing. SCAQMD will either approve or disapprove the amendment within 90 calendar days of receipt. The amendment request must include the following:~~

- ~~a. Letter of explanation of proposed amendment signed by the highest ranking official.~~
- ~~b. A copy of each affected strategy page from the last approved plan.~~
- ~~c. A copy of each of the proposed replacement strategy pages.~~
- ~~d. Applicable amendment fee.~~

Amendment requests may be approved if the employer demonstrates to the satisfaction of the Executive Officer, or designee that the new strategy will result in an AVR which is equal to or better than the strategy it is replacing.

The amendment fees shall not apply when the amendment consists solely of additional or enhanced strategies to the program the addition of strategies to the program or improvements to the existing strategies of an approved program or when the strategy amendment is submitted at the same time as part of the Annual Program submittal. Improvements to existing strategies may include, but are not limited to, increased meeting frequency or increases to subsidy amounts.

C. CHANGE OF OWNERSHIP

In the case of ownership mergers, or change of ownership, the new owner must notify the SCAQMD of this change within 30 calendar days of the new ownership. The new employer, within 90 calendar days must submit a new Annual Registration or Annual Program ECRP or other compliance option to the SCAQMD which adheres to all provisions of Rule 2202 and Guidelines, or submit a letter which states they will continue to implement the program approved by the SCAQMD for the prior owner(s).

D. RELOCATION

Any employer relocating to a new worksite must notify the SCAQMD within 30 calendar days of the relocation. Relocations fall into two categories ~~and are explained below:~~

- a. Employers relocating within two miles of the previous worksite address may elect to continue to implement the most recently approved ~~Annual Program~~ ECRP or the employer may elect to submit a new ~~Annual Program~~ ECRP. The employer must inform SCAQMD of the preference in the notification of relocation letter.
- b. Employers relocating more than two miles from the previous worksite must submit a new ~~Annual Program~~ ECRP within 90 calendar days of the relocation.

Worksite relocations that occur over time are subject to applicability requirements as described in section I.B. Applicability and Rule 2202 (b).

E. DECLARED BANKRUPTCY

An employer who has declared bankruptcy for the official business or governmental operations of its organization or employer through a judicial court filing and confirmation process may request the SCAQMD grant a temporary waiver from complying with the requirements of this Rule. Upon demonstration of the filing and confirmation of bankruptcy, the SCAQMD will grant an exemption for the duration of bankruptcy, not to exceed two years; from the date of the waiver.

Employers shall submit an ECRP within 90 days of the bankruptcy waiver expiration unless they have submitted a written request for an exemption from the rule requirements pursuant to Rule 2202 (I)(1).

F. DECLARED STATE OF EMERGENCY

During a period of significant impairment of transportation systems associated with an event resulting in a local, state or federally declared state of emergency, the SCAQMD may approve programs or program amendments including strategies which decrease trips associated with any location in the SCAQMD, including locations other than a worksite included in the program. Such strategies may be included in any program and may be a substitution for measures contained in an approved program. In the event of substitution, the employer shall demonstrate that any decrease in AVR at a worksite subject to the program will be offset by trips reduced elsewhere in the SCAQMD.

~~G. ADDING WORKSITES TO A MULTI-SITE PROGRAM~~

~~A new worksite may only be added to a Multi-Site program submittal on the next annual submittal, or alternatively, may be filed as a single site submittal. Given the variety of employer situations, each Multi-Site program submittal will be evaluated individually and considered on a case-by-case basis.~~

H.G. PROGRAM DISAPPROVAL APPEALS

The SCAQMD has 90 calendar days to review the resubmitted Annual Program submittal. If the employer believes that the program meets the requirements of Rule 2202 and the Guidelines, and that the program was improperly disapproved, the employer may appeal the disapproval to the

SCAQMD Hearing Board in accordance with Rule 216 - Appeals. A petition for appeal of disapproval must be made within 30 calendar days after the employer receives the notice of disapproval.

I.H. DELAY PROGRAM REVIEW REQUEST

If an employer, employee, employee representative or employee organization requests a delay in action of program review, the request must be in writing to the SCAQMD within 30 calendar days of program submittal and cannot delay the period of time to exceed the 90th day after submittal.

V. -EMPLOYEE COMMUTE REDUCTION STRATEGIES

A. COMMUTE REDUCTION STRATEGIES

Below are the descriptions of the Good Faith Effort Determination Elements that employers can choose to implement. These strategies can be developed and implemented to meet the individual needs of employers in achieving the designated AVR target. Direct financial strategies are not required for program approval.

1. Auto Services - The employer provides auto services for employees participating in the commute reduction program. The employer must provide the type of service (e.g., oil changes, car washes, fuel, oil change, tune-up, repair certificate, etc), monetary value, frequency, eligibility, and minimum requirements to participate in the program.
2. Bicycle Program - The employer provides eligible employees, who commute by bicycle, unique incentives and tools only available to bicyclists and not offered elsewhere in the plan. Examples of incentives that can be included in a program are:
 - Bicycle matching/meetings;
 - Shoes, clothing, helmets, etc.;
 - Lockers, racks, etc.;
 - Bicycle repair services;
 - Tools or repair kits;
 - Discounts at local bicycle shops; or
 - Other bicycle related services.
3. Commuter Choice Programs - The employer provides a Commuter Choice tax benefits program, based on Section 132(f) of the federal tax code. This program allows employees to set aside pre-tax income for qualified commute modes. Section 132(f) covers transit, vanpool and bicycle benefits as well as qualified parking.
4. Compressed Work Week - A eCompressed wWork wWeek (CWW) schedule applies to employees who, as an alternative to completing the basic work requirements in five eight-hour workdays in one week, or ten eight-hour days in two weeks, are scheduled in a manner which reduces trips to the worksite. Employers must indicate if the CWW is offered to all employees, or eligible employees and the total number of employees participating in each type of CWW schedule. It is recommended, but not required, that employers implementing this strategy have a formal written policy on CWW schedules.

5. Direct Communication - Direct communication by the employer's highest ranking official at the worksite, to introduce and/or promote alternative commute modes, outline incentives and encourage participation in a rideshare program. This must occur, at a minimum, on an annual basis and may occur as electronic or written communication.
6. Direct Financial Awards - The employer, or other funding sources, provides eligible employees with cash subsidies for participation in the organization's commute reduction program. The employer must provide the monetary value of the award, frequency, eligibility, and minimum requirements to participate in the program.
7. Discounted/Free Meals - The employer provides eligible employees with free or discounted meals for their participation in the commute reduction program. The employer must provide the monetary value of the award, frequency, eligibility, and minimum requirements to participate in the program.
8. Employee Clean Vehicle Purchase/Lease Program - Encourage and offer incentives for employees who purchase or lease partial zero emission vehicles (PZEV), advance technology PZEV (AT-PZEV), or zero emission vehicles (ZEV) (e.g., credit union loan rate discounts, financial incentives).
10. Employee Newsletter, Flyer, Announcements, Memos or Letters - A communication tool to introduce and/or promote alternative commute modes, outline incentives and encourage participation in a rideshare program that is updated and distributed, at a minimum, on a quarterly basis. If provided electronically, an update or notice must be sent to all employees of the communication's availability.
11. Employee Rideshare Events - Employer sponsored events which promote rideshare opportunities that occurs, at minimum, annually.
12. Flex Time - The employer permits employees to adjust their work hours in order to accommodate public transit schedules or rideshare arrangements. Ideally, employers would have a formal written policy on Flex Time. Do not select this strategy unless flex time is linked to your rideshare program.
13. Gift Certificates - The employer or other funding source provides eligible employees with gift certificates for participation in the commute reduction program. The employer must provide the certificate's monetary value, frequency, eligibility, and minimum requirements to participate in the program.
14. Guaranteed Return Trip - The employer provides eligible employees with a return trip to the point of commute origin, when a need for the return trip arises. This need may be a personal emergency, an unplanned situation, or business-related activities (such as overtime). The employer needs to indicate if this service would be provided by employer vehicle, rental car, taxi, another employee, TMA/TMO, or other entities.
15. Marketing Class - The ETC attends a marketing class within 12 months prior to plan submittal. Proof of attendance must be ~~submitted~~included along with the ~~Annual Program submittal~~. The marketing class may include, but is not limited to:
 - Development of a communication/marketing plan;
 - Development of marketing materials;
 - Development of presentation materials;

- Use of existing programs (e.g., Rideshare Week, rideshare fairs, etc.); and
 - Fundamentals of marketing (including promotion techniques and consumer behavior).
16. New Hire Orientation – The employer provides newly hired employees an ~~explanation~~ overview of alternative commute ~~modes~~ options and employer incentives to promote and encourage participation in a rideshare program.
17. Off Peak Rideshare Program - The employer may voluntarily expand their commute reduction program to include employees who commute outside of the peak window.
18. Other Strategy(ies) - The employer can provide many types of strategies designed to encourage solo commuters to participate in the employee commute reduction program under each strategy heading. These strategies can include, but are not limited to, educational programs, use of clean fuel vehicles for commuting, employer vehicles for ridesharing, carsharing, mobility hub services, rideshare clubs, on-site amenities, electric vehicle infrastructure, voluntary worksite transfers, or the use of TMA/TMO services. Employers who list more than one strategy may receive credit for each individual strategy.
19. Parking Charge/Subsidy - A parking fee is charged to employees who drive alone to the worksite and/or in exchange. ~~The employers~~ may provide a subsidy to employees that can be used for the cost of alternative transportation modes. The employer must provide the monetary value of the charge/subsidy, frequency, eligibility, and minimum requirements to participate in the program. Employers who implement a Parking Charge/Subsidy strategy cannot claim credit as a Parking Cash-out program unless both are independent strategies.
20. Parking Cash-Out/Parking Management Strategies – The employer may voluntarily choose to offer a cash allowance to an employee, at a minimum equivalent to the parking value that the employer would otherwise pay to provide the employee with a parking space as described in the provisions of the Health and Safety Code §43845. Employers may select this strategy as a Good Faith Determination Element provided they are not legally obligated to implement this requirement.
- ~~20~~21. Personalized Commute Assistance - The employer provides personalized assistance such as transit itineraries, carpool matching and personal follow-up to employees. Examples of ways an employer can provide this service to employees are:
- Organize carpool/vanpool formation meeting(s).
 - Assist in identifying park and ride lots.
 - Assist in identifying bicycle and pedestrian routes.
 - Assist in providing personalized transit routes and schedule information.
 - Provide personalized follow-up assistance to maintain participation in the commute reduction program.
- ~~21~~22. Points Program - Employees earn points for each day of participation in the employer’s commute reduction program. Points are redeemed for such rewards as time off, gift certificates, cash or merchandise. The employer must provide the monetary value of the points, frequency, eligibility, and minimum requirements to participate in the program.
- ~~22~~23. Preferential Parking for Ridesharers - The employer provides eligible employees with preferential parking spaces to park their vehicles. These spaces must be clearly posted or

marked in a manner that identifies them for carpool or vanpool use only. The employer shall provide, at a minimum, the following information:

- Number of preferential parking spaces,
- Minimum number of persons per vehicle required to be eligible,
- Minimum number of days or percentage of ridesharing required to be eligible, and
- Method of vehicle identification (e.g., tags, stickers, or license plate number).

~~23~~24. Prize Drawings - The employer provides eligible employees, at a minimum, quarterly, with a chance to win prizes for participation in the commute reduction program. The employer must provide the monetary value of the prizes, frequency, eligibility, and minimum requirements to participate in the program.

~~24~~25. Rideshare Bulletin Board - A physical display with materials that encourage and promote rideshare participation, publicizes incentives and, provides information about the employer's rideshare program. The bulletin board should be in a location that would be most likely viewed by the majority of ~~the~~ employees and must contain different information than the Transit Information Center. It may be necessary to have more than one bulletin board depending on the size of the worksite or employee population.

~~25~~26. Rideshare Matching Services – The employer provides, at a minimum, annually, rideshare matching services, zip code lists, or assistance in finding commute alternatives for all employees. The employer must indicate how and when employees are matched (e.g., during new hire orientation, as part of the employer's annual AVR survey, or on demand). The employer must also indicate how the service is provided to employees, such as:

- Employer based system,
- Regional commute management agency,
- TMA/TMO system,
- Zip code lists/maps, and/or
- Outside service (e.g., consulting services).

~~26~~27. Rideshare Meetings / Focus Groups - Meetings conducted with employees, at a minimum, semi-annually, to solicit input on commute behavior, incentives to rideshare, and to discuss ways to overcome the constraints to participating in alternative commute modes. These meetings may also be used to introduce employees who live in similar areas to foster the development of carpools and vanpools.

~~27~~28. Rideshare Website – An employer's website that is designed to act as a repository for information on the rideshare plan, that is updated, at a minimum, quarterly and is readily accessible to all employees. Employers may also implement other social marketing ~~websites—applications~~ that are administered by the employer for the purposes of encouraging site specific employee trip reductions. At a minimum, quarterly notices must be given to the employees about the availability of the web site.

~~28~~29. Startup Incentives - Incentives designed to reward solo commuters for joining a carpool ~~or~~, vanpool, or ~~using~~ other alternative commute modes, and are generally provided over a short period of time. The employer must provide the monetary value of the incentives, frequency, eligibility, duration, and minimum requirements to participate in the program.

~~29~~30. Telecommuting - Telecommuting means working at home, off-site, or at a telecommuting center for a full workday that eliminates the trip to work or reduces travel distance to the worksite by more than ~~50~~ 51%. Ideally, employers would have a formal written policy on telecommuting. Employers must state if telecommuting is offered to all employees or eligible employees/units, the total number of employees participating in the program, the number of days per week employee²s work at home or at a satellite work center, if a formal written policy exists, and if any training/orientation sessions are held in support of the program.

~~30~~31. Time Off With Pay - The employer provides eligible employees additional time off with pay for participation in the commute reduction program. The employer must provide the monetary value of the incentive, the amount of earned time off, frequency, eligibility, and minimum requirements to participate in the program.

~~31~~32. Transit Information Center - The employer provides a transit information center that makes available general transit information and/or the on-site sale of public transit passes, tickets or tokens to the worksite employees. At a minimum, the information must be updated quarterly.

~~32~~33. Transit Subsidy - Employers pay for all, or part, of the cost of commuting by local mass transit, commuter rail, train, or other public transit. The employer must provide the monetary value of the transit subsidy, frequency, eligibility, and minimum requirements to participate in the program.

~~33~~34. Vanpool Program - The employer provides eligible employees with a vanpool program designed to encourage the use of existing vanpools or the development of new vanpools. The employers must provide, ~~at a minimum, the following information:~~

- Total number of vans participating in the program;
- If the vans are employer owned or leased vans;
- If the vans are third-party owned or leased vans;
- If the vans are employee owned or leased vans;
- Amount and type of subsidies provided for insurance;
- Amount and type of subsidies for fuel and/or maintenance;
- If empty seats are subsidized, and value and length of time this subsidy is offered; and,
- Any other benefit unique to vanpoolers that is not duplicated elsewhere in the ~~plan~~ECRP submittal.

B. PARKING CASH-OUT PROGRAM

Employers who are subject to the parking cash-out provisions of the Health and Safety Code §43845 shall implement a parking cash-out program pursuant to the Health and Safety Code when the worksite ~~Annual Program~~ ECRP has not achieved the AVR target ~~performance requirement~~ and the current AVR fails to show an overall improvement in comparison to the previously submitted ~~Annual Program~~ ECRP.

This parking cash-out requirement shall remain in effect until January 1, 2016, at which time the Executive Officer will evaluate the effectiveness of the parking cash-out program to determine if it should be continued, with recommendation back to the Governing Board.

- i. ~~If no complying vehicles are available or suitable for use due to non availability or performance requirements, the Executive Officer may approve the use, on a case by case basis, of non SULEV or better vehicles.~~

~~D. MOBILE SOURCE DIESEL PM/NO_x EMISSION MINIMIZATION~~

~~Employers shall submit a diesel PM/NO_x emission minimization plan form provided by the AQMD, if the annual plan submittal includes 1,000 or more window employees, the employer owns or operates on site off road mobile diesel equipment that operates exclusively at the worksite, and the equipment is located more than 12 consecutive months at the worksite. For multi-site employers this provision only applies to those individual sites with 1,000 or more window employees. Examples of on-site off road mobile sources include, but are not limited to, yard hostlers, forklifts, riding lawnmowers, maintenance vehicles, tractors, or man lifts.~~

~~When implementing this strategy the following requirements apply:~~

- a. ~~The employer shall submit a triennial diesel emission audit report that includes, at a minimum, an inventory of mobile diesel equipment, fuel usage, and use of control technologies, if any (e.g., clean fuels, engine modification, and after-treatment equipment). Triennial reports are due the same time as the employer's Annual Program submittal.~~
- b. ~~The employer shall implement technically feasible control strategies as identified in the plan approved by the Executive Officer or designee, provided the sum of the annualized capital costs and the annual operating and maintenance costs do not exceed the cost per number of window employees, according to the following schedule:~~

**Mobile Source Diesel Emission Minimization Plan
Maximum Cost per Worksite**

Number of Window Employees	Maximum Cost
1,000-1,499	\$9,000
1,500-1,999	\$13,400
2,000-2,499	\$17,900
2,500-2,999	\$22,400
3,000-3,499	\$26,900
3,500-3,999	\$31,400
4,000-4,499	\$35,800
4,500-4,999	\$40,300
5,000-5,499	\$44,800
5,500-5,999	\$49,300
6,000-6,499	\$53,800
6,500-6,999	\$58,200
7,000-7,499	\$62,700
7,500-7,999	\$67,200
8,000-8,499	\$71,700
8,500-8,999	\$76,200
9,000-9,499	\$80,700
9,500-9,999	\$85,100
10,000 and up	\$89,600

- e. ~~AQMD staff will conduct technical feasibility and cost analysis in consultation with employers. Feasible minimization strategies shall be identified as conditions in the approved plan. Employers shall implement the plan expeditiously, but not later than two years from the date of the Diesel Emission Minimization plan's approval.~~
- d. ~~In conducting the cost analysis, the following methodology will be followed. The cost of a diesel emission control technology consists of capital costs and/or annual operating and maintenance costs. Capital costs will be annualized over the equipment life or a ten year default life may be applied with a 4% real interest rate. Capital costs are one-time costs; examples include the price of control equipment, engineering design, and installation, if applicable. Operating and maintenance costs are annual recurring costs and include expenditures on utilities, labor, and material costs associated with control equipment operation.~~

The cost analysis is calculated according to the following equation:

$$\text{Annualized Project Cost} = (\text{Capital Cost} * \text{CRF}) + \text{O\&M}$$

Where:

Capital Cost = One-time cost of the equipment, design, and installation.

CRF = Capital Recovery Factor. For a 10-year default life with a 4% real interest rate the CRF is 0.123.

O&M = Operation and maintenance cost for 1 year.

Typical capital costs and operating and maintenance costs for off-road emission control strategies are listed below:

Capital Costs	Operating & Maintenance Costs
Purchased Equipment/Device Cost <ul style="list-style-type: none"> ● New Off Road Vehicles ● New Diesel Engines ● Alternative Fueling Stations ● Diesel Particulate Filters ● Engine Catalysts Direct & Indirect Installation Costs <ul style="list-style-type: none"> ● Engineering/Design ● Construction 	Fuel Costs Labor Costs for Maintenance Maintenance Materials Replacement Parts Any Savings

~~Only the incremental costs between new and existing equipment/devices should be accounted for.~~

- ~~e. Employers may appeal the conditions of diesel minimization plan to the Hearing Board pursuant to Rule 216 Appeals.~~
- ~~f. The approved plan shall be subject to provisions of Rule 221 Plans.~~

VI. GLOSSARY

1. AGGREGATE AVR means the weighted average AVR of an employer that has several different worksites within the same AVR Performance Zone that are included within one Employee Commute Reduction Program.
- ~~2. ANNUAL PROGRAM means a form submittal that contains AVR survey results, a plan to achieve the performance requirement for the worksite, and an agreement to continue implementing the Employee Commute Reduction Program.~~
- ~~3.2.~~ AVERAGE VEHICLE RIDERSHIP (AVR) is the current number of employees that begin work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- ~~4.3.~~ AVR CALCULATION means the numerical method used to determine the worksite's AVR, calculated to two decimal places, in accordance with these guidelines.
- ~~5.4.~~ AVR DATA COLLECTION METHOD is a method for gathering employee commute mode data needed to calculate an employer's AVR.
- ~~6.5.~~ AVR PERFORMANCE ZONE is a geographic area that determines the average vehicle ridership performance requirement or target for a worksite pursuant to the map in Attachment I of this guideline. The AVR Performance Zones are as follows:
 - Zone 1: 1.75 AVR
 - Zone 2: 1.5 AVR
 - Zone 3: 1.3 AVR
- ~~7.6.~~ AVR WINDOW is the period of time, Monday through Friday between the hours of 6:00 a.m. and 10:00 a.m. used to calculate AVR in accordance with these guidelines. AVR Window, as applied to businesses operating seven days a week, is the period of time, Sunday through Saturday between the hours of 6:00 a.m. and 10:00 a.m., used to calculate AVR in accordance with these guidelines. ~~Employers using an alternative window or week must have written AQMD approval prior to the annual survey.~~
- ~~8.7.~~ CARPOOL is a vehicle occupied by two to six people traveling together between their residences and their worksites or destinations for ~~the majority~~ 51% of the total trip distance. Employees, who work for different employers, as well as non-employed people, are included within this definition as long as they are in the vehicle for ~~the majority~~ 51% of the total trip distance.
- ~~9.8.~~ CENTRALIZED RIDESHARE SERVICE CENTER (CRSC) ~~is a strategy that~~ may be used by employers submitting Multi-Site programs that will provide equivalent services in lieu of having a trained ETC and implementation records at each worksite.
- ~~10.9.~~ COMPLIANCE YEAR is the time period beginning when an ~~Annual Program~~ ECRP is approved until a new ~~Annual Program~~ ECRP is approved. Program amendments and extensions do not affect the compliance year.
- ~~11.10.~~ COMPRESSED WORK WEEK (CWW) ~~applies to employees who as is~~ an alternative schedule used to completing complete basic work requirements ~~in five eight-hour workdays in one week, or 10 eight-hour workdays in two weeks, are scheduled in a manner which~~ reduces vehicle trips to the worksite. The recognized compressed work week schedules for

this Rule are, but not limited to, 36 hours in three days (3/36), 40 hours in four days (4/40), or 80 hours in nine days (9/80).

- ~~12.11.~~ CONSULTANT ETC means a person that meets the definition of and serves as an ETC at a worksite other than the Consultant's employer.
- ~~13.12.~~ DIRECT FINANCIAL AWARD means an employee commute reduction strategy in which the employer awards cash, prizes, or items of cash value subsidies to an employee for specified rideshare behavior.
- ~~14.13.~~ DISABLED EMPLOYEE means an individual with a physical impairment that prevents the employee from traveling to the worksite by means other than a single-occupant vehicle.
- ~~15.~~ EMERGENCY OR RESCUE VEHICLE means any vehicle defined in Section 165 of the California Vehicle Code and is equipped with red lights and sirens as defined in Sections 30, 25269, and 27002 of the California Vehicle Code.
- ~~16.14.~~ EMPLOYEE means any person employed full or part-time by a person(s), firm, business, educational institution, non-profit agency or corporation, government or other entity. This term excludes the following: seasonal employees, temporary employees, volunteers, field personnel, field construction workers, and independent contractors.
- ~~17.15.~~ EMPLOYEE COMMUTE REDUCTION PROGRAM (ECRP) means an Annual Program, under the Employee Commute Reduction Program option, submitted to the SCAQMD, in accordance with these guidelines.
- ~~18.16.~~ EMPLOYEE TRANSPORTATION COORDINATOR (ETC) is an employee who has completed an SCAQMD certified training course and has been appointed to develop, market, administer, and monitor the Employee Commute Reduction Program at a single worksite. The ETC must be at the worksite during normal business hours when the majority of employees are at the worksite.
- ~~19.17.~~ FEDERAL FIELD AGENT means any employee who is employed by any federal entity whose main responsibility is National Security and performs field enforcement and/or investigative functions. This does not include employees in non-field or non-investigative functions.
- ~~20.18.~~ FIELD CONSTRUCTION WORKER means an employee who reports directly to work at a construction site.
- ~~21.19.~~ FIELD PERSONNEL means employees who spend 20 percent or less of their work time, per week, at the worksite and who do not report to the worksite during the peak period for pick-up and dispatch of an employer-provided vehicle.
- ~~22.~~ FLEET VEHICLES means, for purposes of this rule, any vehicles including passenger cars, light duty trucks, and medium duty on road vehicles, owned or leased by an employer that totals four (4) or more vehicles.
- ~~23.~~ HIGH AVR NO FAULT INSPECTION is a No Fault Inspection available only to worksites that reach or exceed their designated AVR. Worksites that pass this inspection will have their current plan filing fee reduced and are eligible for minimal filing requirements.
- ~~24.20.~~ HOLIDAYS are those days designated as National or State Holidays that shall not be included in the AVR survey period.

- ~~25.21.~~ INDEPENDENT CONTRACTOR means an individual who enters into a direct written contract or agreement with an employer to perform certain services and is not on the employer's payroll.
- ~~26.~~ LEASE, for purposes of the ~~Employer Clean Fleet Purchase/Lease Program~~, is a contract for the temporary use of a vehicle for a term exceeding four consecutive months pursuant to California Vehicle Code §371 et seq.
- ~~27.22.~~ LOW-INCOME EMPLOYEE means an individual whose salary is equal to, or less than, the current individual income level set in the California Code of Regulations, Title 25, Section 6932, as lower income for the county in which the employer is based. Higher income employees may be considered to be "low-income" if the employees demonstrate that the program strategy would create a substantial economic burden.
- ~~28.23.~~ MULTI-SITE EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency or other entity which has more than one worksite located within the South Coast Air Basin SCAQMD where 250 or more employees report to ~~a~~ each worksite.
- ~~29.24.~~ MULTI-SITE PROGRAM means ~~a single~~ an Employee Commute Reduction Program submitted to the SCAQMD to comply with these guidelines that encompasses more than one worksite within a single AVR Performance Zone that belongs to a multi-site employer.
- ~~30.~~ NO FAULT INSPECTION is ~~a pre arranged worksite employee commute reduction program compliance inspection that is initiated by the employer or the employer representative and is conducted by AQMD compliance staff, without penalty for non-compliance.~~
- ~~31.25.~~ NONCOMMUTING AVR CREDIT applies to employees who arrive at the worksite during the window for calculating AVR, and remains at the worksite or out of the SCAQMD's jurisdiction for a full 24 hour period or more to complete work assignments.
- ~~32.26.~~ OFF PEAK COMMUTE TRIP is a commute trip that occurs outside the peak commute window of 6:00 a.m. - 10:00 a.m., Monday through Friday.
- ~~33.27.~~ ON-SITE COORDINATOR is a person who has been designated by the employer as ~~an "On-Site Coordinator"~~ such and has knowledge of the employer's ECRP and marketing methods. The On-Site Coordinator is limited to program implementation rather than program development.
- ~~34.28.~~ PARKING CASH-OUT is a program where an employer offers to provide a cash allowance to an employee, at a minimum equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space pursuant to the provisions of the Health and Safety Code ~~Section~~ §43845.
- ~~35.29.~~ PART-TIME EMPLOYEE means any employee who reports to a worksite ~~on a part-time basis~~ fewer than 32 hours per week, but more than four hours per week. These employees shall be included in the employee count for purposes of Rule applicability; and for AVR calculations of the employer, provided the employees begin work during the window for calculating AVR.
- ~~36.30.~~ POLICE/SHERIFF means any employee who is certified as a law enforcement officer and is employed by any state, county or city entity. Such employees are ~~only~~ police officers

and sheriffs, who perform field enforcement and/or investigative functions. This would not include employees in non-field or non-investigative functions.

~~37.~~31. SEASONAL EMPLOYEE means a person who is employed for less than a continuous 90-day period or an agricultural employee who is employed for up to a continuous 16-week period.

~~38.~~32. STRATEGY means an ~~e~~Employee ~~e~~Commute ~~r~~Reduction ~~p~~Program element developed, offered and/or implemented by employers for the purpose of encouraging employees to use alternative modes of transportation other than single occupant vehicles when reporting to work during the ~~employer's~~ window.

~~39.~~33. STUDENT WORKER means a ~~student~~ person who is enrolled and gainfully employed (on the payroll) by an educational institution. Student workers who work more than four hours per week are counted for rule applicability and if they begin work during the 6:00 a.m. - 10:00 a.m. window are counted for AVR calculation.

~~40.~~34. TELECOMMUTING means working at home, off-site, at a satellite office or at a telecommuting center, for a full workday that eliminates the trip to work or reduces travel distance by more than ~~50~~ 51 percent.

~~41.~~35. TEMPORARY EMPLOYEE means any person employed by an employment service or agency that reports to a worksite other than the employment agency's worksite, under a contractual arrangement with a temporary employer. Temporary employees are only counted as employees of the temporary agency for purposes of Rule applicability and calculating AVR.

~~42.~~ TOTAL SURPLUS VEHICLE REDUCTIONS (TSVR) is the sum of the surplus daily commute vehicle reductions that exceeds the designated AVR, at each worksite included in a Multi-Site program.

~~43.~~ TOTAL VEHICLE REDUCTION SHORTFALL (TVRS) is the sum of the additional daily commute vehicle reductions needed to attain the designated AVR, at each worksite included in a Multi-Site program.

~~44.~~36. TRANSIT is a shared passenger transportation service which is available for use by the general public, as distinct from modes such as taxicabs, carpools, or vanpools which are not shared by strangers without private arrangement. Transit include buses, ferries, trams, trains, rail, or other conveyance which provides to the general public a service on a regular and continuing basis. Also known as public transportation, public transit or mass transit.

~~45.~~37. TRANSPORTATION MANAGEMENT ASSOCIATION OR TRANSPORTATION MANAGEMENT ORGANIZATION (TMA/TMO) means a ~~private~~ non-profit association that has a financial dues structure joined together in a legal agreement for the purpose of achieving mobility and air quality goals and objectives within a designated area.

~~46.~~ TRAINING PROVIDER means a ~~person(s), firm, business, educational institution, non-profit agency, corporation, or other entity~~ which meets the minimum guideline qualifications and is certified by the AQMD to provide training to ETCs.

~~47.~~38. VANPOOL is a vehicle occupied by seven to 15 people traveling together between their residences and their worksites or destinations for ~~the majority~~ 51% of the total trip distance. Employees, who work for different employers, as well as non-employed people, are included

within this definition as long as they are in the vehicle for ~~the majority~~ 51% of the total trip distance.

~~48.39.~~ 49.39. VEHICLE TRIP is ~~based on~~ determined by the means of transportation used for the greatest distance of an employee's home-to-work commute trip for employees who begin work during the peak period. Each vehicle trip to the worksite shall be calculated as follows:

Single-occupant vehicle = 1

Carpool = 1 divided by number of people in carpool

Vanpool = 1 divided by number of people in vanpool

Motorcycle, moped, motorized scooter, motor bike = 1 divided by number of people on bike

Public transit = 0

Bus pool = 0

Bicycle = 0

Walking and other non-motorized transportation modes = 0

Non-commuting = 0

Telecommuting = 0 on days employee is telecommuting for the entire day

Compressed Workweek = 0 on employee's compressed day(s) off

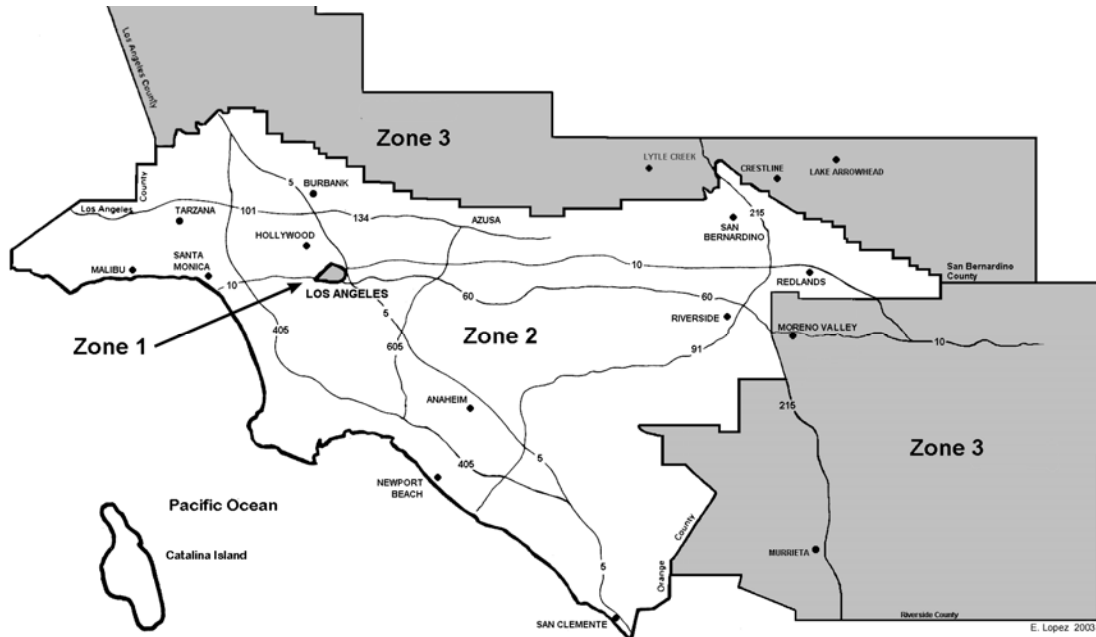
Zero-emission vehicles = 0

~~49.40.~~ 50.40. VOLUNTEER means any person(s) at a worksite who, of their own free will, provides goods or services, without ~~any~~ financial gain.

~~50.41.~~ 51.41. WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2 mile radius and are in the same AVR Performance Zone.

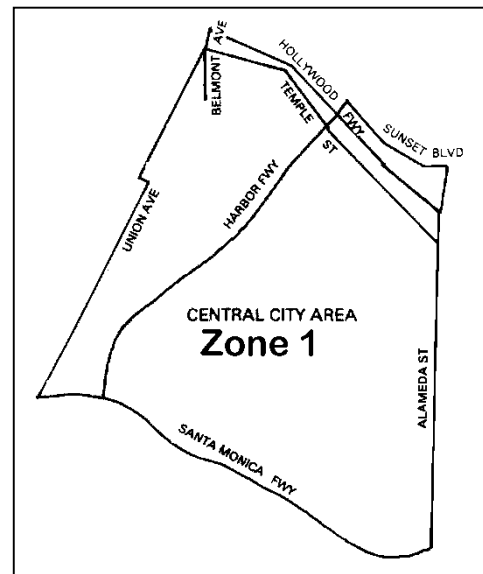
~~51.42.~~ 52.42. WORKSITE EMPLOYEE THRESHOLD means 250 employees employed at a single worksite for the prior consecutive six month period calculated as a monthly average, and 33 or more employees scheduled to report to work during the window any one day during the prior consecutive 90 days.

VIII. ATTACHMENT I



AVR PERFORMANCE ZONES

- A worksite's AVR Performance Zone depends on its location.
- District's Source/Receptor Areas are shown in Attachment 3 of Rule 701 - Air Pollution Emergency Contingency Actions.
- **Zone 1** is the Central City Area of Downtown Los Angeles within the SCAQMD's Source/Receptor Area 1.
- **Zone 2** corresponds to the SCAQMD's Source/Receptor Areas 2 through 12, 16 through 23, and 32 through 35, excluding the Zone 1 - Central City Area.
- **Zone 3** corresponds to the SCAQMD's Source/Receptor Areas 13, 15, 24 through 31, and 36 through 38.



BOARD MEETING DATE: May 1, 2015

AGENDA NO. 32

PROPOSAL: Adopt Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

SYNOPSIS: The Los Angeles Department of Water and Power and Southern California Edison submitted an application under Rule 2202(f)(6) to generate emissions credits from the use of electric vehicle charging stations located at non-residential locations. The emissions credits would be used for compliance purposes under Rule 2202. At this time, there is no protocol that can be readily used to approve the application request. Under Rule 2202(f)(6), an emissions reduction quantification protocol must be developed and approved by the SCAQMD prior to approval of the application. Staff developed a quantification protocol that underwent a public process including an environmental review for the SCAQMD Board's consideration.

COMMITTEE: Mobile Source, October 17, 2014 and March 20, 2015, Reviewed

RECOMMENDED ACTIONS:

Adopt the attached resolution:

1. Certifying the Final Environmental Assessment; and
2. Adopting Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

Barry R. Wallerstein, D.Env.
Executive Officer

EC:HH

Background

Rule 2202 provides affected employers with a menu of options to reduce mobile source emissions generated from employee commutes. Among the compliance options provided in Rule 2202 is the implementation of an Emission Reduction Strategy (ERS) to meet the employer's emissions reduction target (ERT). Specifically, under Rule 2202(f)(6), any person may receive credit toward an ERT for any emission reduction

strategy that the employer or other person demonstrates to the Executive Officer achieves real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review.

On January 14, 2014, the SCAQMD received a proposed quantification protocol for electric vehicle charging stations from the Los Angeles Department of Water and Power (LADWP) and Southern California Edison (SCE). LADWP and SCE requested a Rule 308 Emission Reduction Project Review of the quantification protocol for future use under Rule 2202(f)(6). After staff's review of the proposed protocol submitted by LADWP and SCE, staff indicated to LADWP and SCE that additional provisions must be developed in order for the protocol to be approvable. Staff believes that such projects will help encourage greater deployment of zero-emission and plug-in hybrid electric vehicles.

Since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in compliance with Rule 2202, staff prepared a draft protocol for public review and comment. In addition, the proposed protocol must undergo an environmental review and must be approved by the SCAQMD Board.

Proposal

Staff developed a draft protocol for the generation of Rule 2202 credits from the use of electric vehicle charging stations at public parking lots or workplaces, and the proposed protocol is provided in Attachment B – Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects (Protocol).

The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to encourage workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the South Coast Air Quality Management District where charging stations can be installed for use by the general public, or at private parking lots and structures designated for employee parking only. The latter includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

The Protocol provides consistency in the evaluation, approval, and monitoring of all electric vehicle charging station projects generating emission reductions for the Rule 2202 program. It will also serve as guidance to applicants, charging station owners, and

other companies proposing to implement an electric vehicle charging station project by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation. Implementation of electric vehicle charging station projects may generate Rule 2202 credits only through an SCAQMD-approved Rule 2202(f)(6) application.

The Protocol's main elements include definitions; application submittal requirements; reduction quantification methods; monitoring and reporting requirements, and other conditions and criteria. The Protocol includes the following provisions: generation of reductions from charge stations may include any entities including Rule 2202 employers; the credits can only be used for Rule 2202 compliance; and the useful life of the credit is one year. If the electric vehicle charging stations were partially funded by CEC, CARB, or SCAQMD (including the MSRC), the credits generated will be discounted based on the amount of public funding received. If a Rule 2202 employer generates credits under the protocol or the project is located at a parking lot or structure where the Rule 2202 employer has an arrangement for employee parking, the Rule 2202 employer cannot take ZEV credits in their AVR target calculation.

The charge stations may be installed in parking lots or structures accessible to the general public or private parking lots or structures designated for employee parking only that are located within the SCAQMD. Eligible charge stations projects include stations installed since January 14, 2014 (the date LADWP and SCE submitted a request to develop an electric vehicle charging station protocol).

The methodology developed to calculate the emission reduction credits generated for electric vehicle charging stations at workplaces includes the activity level in kilowatt-hrs divided by the average fuel economy of all commercially available zero-emission and plug-in hybrid vehicles (for all model years up to the current year) in kilowatt-hrs/mile multiplied by the emission factor from the EMFAC model in lbs per year for an average commute vehicle. This factor is then divided by a constant factor of 8320 to account for annual miles per commute vehicle. Finally, a discount factor of 20 percent is applied to account for the use of an average fuel economy and the emissions associated with the generation of electricity.

Public Process

Staff began the development of the Protocol in mid-2014. In October 2014, staff released a Draft Protocol for public review. A public consultation meeting and CEQA Scoping meeting was held on November 19, 2014. In addition to the comments provided at the public consultation meeting, five written comment letters were received at the close of comments on December 3, 2014. The public comments and responses to comments are provided in the Final Staff Report (Attachment C).

Among the comments received, the three most significant are the proration of credits if public funding was provided for the charging stations; eligibility of existing charging stations to generate Rule 2202 credits; and the monthly reporting requirements.

Relative to the proration of credits concern, staff had originally proposed that no credits be generated from charging stations that have received full or partial funding from CEC, CARB, or SCAQMD (including MSRC). However, after further discussions with LADWP and SCE, staff developed a methodology whereby the credits generated would be discounted based on the amount of public funding received compared to the total cost of the charging station. The proration methodology is reflected in the current Protocol.

Comments were received regarding the eligibility of existing charging stations to generate Rule 2202 credits. Staff had proposed to allow stations deployed one year prior to the Board's approval of the Protocol to be eligible to generate credit. However, recognizing that LADWP and SCE's request to develop a protocol was received on January 14, 2014, staff is now proposing that all charging stations installed on or after January 14, 2014 be eligible to generate Rule 2202 credits.

Lastly, comments were received that the requirement for monthly reporting of electricity consumption is overly burdensome and unnecessary. Staff agreed with the comment and revised the reporting requirements to the period credits are generated. The documentation of how electricity consumption information will be kept must be provided as part of the Rule 2202(f)(6) application.

California Environmental Quality Act (CEQA)

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15252 and SCAQMD Rule 110, a Draft Environmental Assessment (EA) for the Rule 2202 Emissions Reduction Quantification Protocol for Electric Vehicle Charging Station Projects has been prepared. The Draft EA was released for a 30-day public review and comment period beginning on January 27, 2015, and ending on February 25, 2015. Two comment letters were received from the public. One comment letter addressed to CEQA staff did not raise CEQA issues and response to comments has been addressed in the Final Staff Report for the Rule 2202 Emission Reduction Quantification Protocol instead of the EA. Responses have been prepared for the other comment letter, and both that comment letter and responses to those comments have been incorporated into the EA such that it is now a Final EA. (See Attachment D.)

Resource Impacts

The Board's adoption of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects will allow entities to generate Rule 2202 credits that will be used by Rule 2202 employers towards compliance with Rule 2202. Since the generation of Rule 2202 credits will be on a voluntary basis, staff believes that there will be minimal resource impacts on the SCAQMD to approve Rule 2202(f)(6) applications and approve Rule 2202 credits generated through electric vehicle charging.

In addition, there will be small administrative costs associated with random inspection of electric vehicle charging station projects. Staff believes that there are sufficient resources to implement the generation of Rule 2202 credits through electric vehicle charging stations.

Recommendation

Staff recommends that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects be adopted. The adoption of the Protocol will provide additional incentives for the installation of electric vehicle charging stations at workplaces and further encourage employees to acquire battery-electric vehicles or plug-in hybrid electric vehicles.

Attachments

- A. Resolution
- B. Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
- C. Final Staff Report on Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
- D. Final Environmental Assessment

ATTACHEMENT A

RESOLUTION NO. 15-_____

A Resolution of the SCAQMD Governing Board certifying the Final Environmental Assessment for Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

A Resolution of the South Coast Air Quality Management District (SCAQMD) Governing Board adopting Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

WHEREAS, the SCAQMD Governing Board has determined with certainty that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, is a “project” pursuant to the terms of the California Environmental Quality Act (CEQA); and

WHEREAS, the SCAQMD has had its regulatory program certified pursuant to Public Resources Code Section 21080.5 and has conducted CEQA review and analysis pursuant to such program (Rule 110); and

WHEREAS, SCAQMD staff has prepared a Draft Environmental Assessment (EA) pursuant to its certified regulatory program and pursuant to CEQA Guidelines §15252, setting forth the potential environmental consequences of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects; and

WHEREAS, the Draft EA was circulated for 30-day public review and comment period from January 27, 2015 to February 25, 2015; and

WHEREAS, any responses to comments received on the Draft EA are included in the Final EA, and the Draft EA has been revised such that it is now a Final EA; and

WHEREAS, it is necessary that the adequacy of the Final EA, including responses to comments, be determined by the SCAQMD Governing Board prior to its certification; and

WHEREAS, the Final EA reflects the independent judgment of the SCAQMD Governing Board; and

WHEREAS, the SCAQMD is not required to prepare Findings, a Statement of Overriding Considerations, or a Mitigation Monitoring Plan because the

proposed project is not expected to generate significant adverse environmental impacts; and

WHEREAS, the SCAQMD Governing Board voting on the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects has reviewed and considered the Final EA, including responses to any comments received prior to its certification; and

WHEREAS, the SCAQMD Governing Board finds and determines, taking into consideration the factors in §(d)(4)(D) of the Governing Board Procedures, that the modifications which have been made to the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, since notice of public hearing was published do not significantly change the meaning of the proposed project within the meaning of Health and Safety Code §40726 and would not constitute significant new information requiring recirculation of the CEQA document pursuant to CEQA Guidelines §15088.5; and

WHEREAS, implementation of the provisions in Rule 2202(f)(6) requires the use of an existing emission quantification protocol for any projects proposed and no such protocol exists to quantify credits generated from electric vehicles charging; and

WHEREAS, the Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F.2.e) provides that a quantification protocol be developed and approved by the Governing Board; and

WHEREAS, generating credits for Rule 2202 compliance purposes using the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects will help incentivize the installation of electric vehicle charging stations at workplaces and encourage the acquisition of electric and plug-in electric vehicles; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects does not significantly affect air quality or emission limitations and as such, no socioeconomic analysis is required under Health and Safety Code Section 40728.5; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, does not impose a new emission limit or standard more stringent, or impose new or more stringent monitoring, reporting, or recordkeeping requirements and therefore a comparative analysis pursuant to Health and Safety Code Section 40727.2 is not required; and

WHEREAS, the SCAQMD Governing Board obtains its authority to adopt this Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects pursuant to sections 40000, 40001 and 40440, of the California Health and Safety Code; and

WHEREAS, the SCAQMD Governing Board has determined that a need exists to adopt the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects in order to increase the effectiveness of the program; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, is written or displayed so that its meaning can be easily understood by the persons directly affected by it; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, is in harmony with, and not in conflict with or contradictory to, existing federal and state statutes, court decisions, or state and federal regulations; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as proposed to be adopted, does not impose the same requirements as any existing state or federal regulation and the Rule 2202 Emission Quantification Protocol for Electric Vehicle Charging Station Projects is necessary and proper to execute the powers and duties granted to, and imposed upon, the SCAQMD; and

WHEREAS, the SCAQMD Governing Board specifies the manager of Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, as the custodian of the documents or other materials which constitute the record of proceedings upon which the adoption of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is based, which are located at the South Coast Air Quality Management District, 21865 Copley Drive, Diamond Bar, California 91765; and

WHEREAS, a public hearing has been properly noticed in accordance with the provisions of Health and Safety Code Section 40725; and

WHEREAS, the SCAQMD Governing Board has held a public hearing in accordance with all provisions of law; and

WHEREAS, the SCAQMD Governing Board has determined that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, should be adopted for the reasons contained in the Staff Report, and

NOW, THEREFORE, BE IT RESOLVED, that the SCAQMD Governing Board does hereby certify that the Final EA for Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects was completed in compliance with CEQA and Rule 110 provisions; and that the Final EA was presented to the Governing Board, whose members reviewed, considered and approved the information therein prior to acting on the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects; and

BE IT FURTHER RESOLVED, that because no significant adverse environmental impacts were identified as a result of implementing Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, Findings, a Statement of Overriding Considerations, and a Mitigation Monitoring Plan are not required; and

BE IT FURTHER RESOLVED, that the SCAQMD Governing Board does hereby adopt, pursuant to the authority granted by law, Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects as set forth in the attached and incorporated herein by reference.

DATE: _____

CLERK OF THE BOARDS

ATTACHMENT B

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR
ELECTRIC VEHICLE CHARGING STATION PROJECTS**

(a) Purpose

The purpose of this Protocol is to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

(b) Applicability

This Protocol applies to persons who voluntarily elect to generate Rule 2202 credits or submit proposals under the Rule 2202 AQIP through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

(c) Definitions

- (1) AVERAGE VEHICLE RIDERSHIP (AVR) means the current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- (2) CONTRACTOR means a person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) Applicant to implement the Project.
- (3) ELECTRIC VEHICLE CHARGING STATION (EVCS) means a device or station that provides power to charge the batteries of a dedicated battery-electric vehicle (BEV) or a plug-in hybrid electric vehicle (PHEV). These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.

- (4) EMISSION REDUCTION TARGET (ERT) means the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
 - (5) EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to one common governing board or governing entity or that function as one corporate unit are considered to be one employer.
 - (6) REPORTING PERIOD means every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application, but may not exceed 12 months.
 - (7) RULE 2202(f)(6) APPLICANT means any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this Protocol.
 - (8) RULE 2202 CREDIT means the emissions reductions associated with the amount of electricity consumption used to charge a ZEV as calculated by the emissions reduction quantification equation provided in this protocol, and is generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
 - (9) WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone as defined in Rule 2202.
 - (10) ZERO-EMISSION VEHICLE (ZEV) means, for the purposes of this Protocol, any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEV).
- (d) Eligible Projects
- (1) Eligible projects include the installation of new electric vehicle charging stations installed on or after January 14, 2014 at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the

general public or at private parking lots and structures designated for employee parking only.

- (2) Notwithstanding subparagraph (e)(1), the following types of EVCS installations shall not be eligible to generate Rule 2202 credits:
 - (A) Electric vehicle charging stations that have received full funding from California Energy Commission, California Air Resources Board, or SCAQMD including the Mobile Source Emissions Reduction Review Committee (MSRC).
 - (B) For electric vehicle charging stations that have received partial funding from any of the entities listed in subparagraph (d)(2)(A), the prorated portion based on the amount of funding received as a percentage of the total charging station project cost and as provided in the Emission Reduction equation pursuant to subparagraph (f)(2).
 - (C) Parking lots or structures that are owned by or have an arrangement with a Rule 2202 employer to provide parking to its employees, and the Rule 2202 employer accounts for zero emission vehicles as part of its AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).
- (e) Credit Generator Requirements
- Any person who elects to generate Rule 2202 credits under this Protocol shall submit a Rule 2202(f)(6) application pursuant to Section II.F of the Rule 2202 On-Road Motor Vehicle Mitigation Option Implementation Guidelines.
- (1) A Rule 2202(f)(6) application must be submitted within 90 days,
 - (A) From the date of installation of new charging stations installed after *[insert date of approval of this Protocol by the SCAQMD]*; or
 - (B) From *[insert date of approval of this Protocol by the SCAQMD]* for electric vehicle charging stations installed on or after January 14, 2014 and prior to the date of approval of this Protocol.
 - (2) The Rule 2202(f)(6) application shall describe how any of the above-qualified electric vehicle charging stations will be monitored separately from any existing unqualified charging stations.
- (f) Emission Reduction Quantification
- (1) Emission reductions generated shall be based on actual electricity consumption at the electric vehicle charging station(s), which shall be located within the

jurisdiction of the South Coast Air Quality Management District shown in Attachment I of Rule 2202.

- (2) The emission reductions shall be quantified using the following equation.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NO_x, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy's website(kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NO_x, or CO (lbs/year/daily commute/vehicle) as provided in Table 25, ~~Appendix B of the~~ Rule 2202 On-Road Motor Vehicle Mitigation Options ~~Annual Program Compliance Forms~~ Emission Factor Methodology

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is 1.0, if the electric vehicle charging stations were funded entirely by the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for **EF** from lbs/year to lbs/mile

DF = Discount Factor for the VOC, NO_x, or CO (lbs/mile)
(Default = 1.20)

- (3) The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.
 - (4) Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize the deployment of zero-emission vehicles.
- (g) Credit Generation, Issuance, Use, and Project Life
- (1) Rule 2202 credits:
 - (A) Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202 (f)(6) application to implement an EVCS project;
 - (B) Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
 - (C) Shall only be applied towards compliance as allowed under Rule 2202;
 - (D) May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
 - (E) Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations, in which case they may not be used for Rule 2202 compliance.
 - (2) All projects shall be inspected by SCAQMD prior to and following project implementation. Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.
 - (3) Rule 2202 credits will not be issued or emission reductions generated for AQIP purposes will not be approved by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify that the project was implemented as approved. This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.
 - (4) If a Rule 2202 employer obtains Rule 2202 credits under this Protocol through a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202

compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.

- (5) If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.
- (6) The project life shall be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.

(h) **Monitoring, Recordkeeping, and Reporting**

(1) **Monitoring**

(A) Each electric vehicle charging station or each group of electric vehicle charging stations under the project shall monitor the electricity consumed during vehicle charging and the electricity consumed shall be recorded in logs as required under the Recordkeeping Section of this Protocol.

(i) The Contractor or Rule 2202(f)(6) Applicant shall provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or in the Rule 2202(f)(6) application (for Rule 2202(f)(6) Applicant or its Contractor) as to how electricity consumption shall be monitored or that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

(ii) If a meter cannot be installed on an electric vehicle charging station or on a group of electric vehicle charging stations, the Rule 2202(f)(6) Applicant or Contractor may use an alternative form of reporting electricity usage if the Rule 2202(f)(6) Applicant or Rule 2202 AQIP Contractor, at the time of the Rule 2202(f)(6) application submittal or AQIP contract execution, demonstrates to the satisfaction of the Executive Officer that the alternative form of reporting is equivalent to having a meter or meters installed.

(B) Should the usage meter require repair and/or replacement, a maintenance record shall be prepared and submitted to the SCAQMD with the activity

level data report as provided in the Reporting Section below. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

- (C) Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.

(2) Recordkeeping

- (A) Contractor or Rule 2202(f)(6) Applicant shall ensure that the following records are maintained:
 - (i) A log of total electricity consumption(the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
 - (ii) Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;
 - (iii) Rule 2202 credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
 - (iv) Records of any maintenance or repairs performed; and
 - (v) The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original copy shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.
- (B) Records shall be maintained by the project proponent during the project life and for three (3) years after the termination of the project or contract.

- (3) Reporting
 - (A) Contractors or Rule 2202(f)(6) Applicants shall submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.
 - (B) Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) or Rule 2202 AQIP Contractors generating emission reductions under an AQIP contract may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval or execution of an AQIP contract.
 - (C) Each activity level data report shall be submitted within 60 days after the end of the reporting period.
 - (D) If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.
 - (E) A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period.
 - (F) The SCAQMD shall notify the Applicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete.
 - (G) Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.
 - (H) Each activity level data report shall, at a minimum, include:
 - (i) A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;
 - (ii) Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);
 - (iii) Time period that the report covers;
 - (iv) Actual emission reductions, as calculated by the SCAQMD approved method in this Protocol;

- (v) A brief description of any maintenance or repairs performed during the reporting period; and
 - (vi) All assumptions, calculations, and factors used to determine the activity level and derive the actual emission reductions that are not already included in the proposal/application;
- (i) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions or AQIP Contract Provisions
 - (1) The records created pursuant to subparagraph (h)(2)(A) shall be made available to SCAQMD upon request for purposes of inspection and verification.
 - (2) If Contractor or Rule 2202(f)(6) Applicant or other parties involved in the project fail to adequately maintain records/logs pursuant to paragraph (h)(2), Rule 2202 credits, or emission reductions generated under an AQIP contract, will not be approved for any period in which the records/logs were not maintained.
 - (3) Failure to produce all requested records to the SCAQMD pursuant to subparagraph (g)(1) within 10 business days of the request may result in loss of Rule 2202 credits, or emission reductions for AQIP purposes, for the time period following the request up until the time that records are produced.
 - (A) Egregious or prolonged delays in submittal of requested records resulting in over 45 days from the date of request of request by the SCAQMD, may result in more severe penalties for violating Rule 2202, including rescinding of unused credits approved for a prior reporting period.
 - (4) Any person submitting a Rule 2202(f)(6) application or under an AQIP contract who falsifies information in the application or fails to implement any provision of the application, shall be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code.
 - (A) The SCAQMD may also take one or more of the following actions:
 - (i) Rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits or emission reductions for AQIP purposes in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or
 - (ii) Designate the Applicant or Contractor to be ineligible to generate Rule 2202 credits or emissions reductions pursuant to this program or any other District program.

(j) Other Conditions

To the extent that conflicting provisions are contained in an approved District regulation, the provisions of the regulation, and not of these Guidelines, are controlling.

ATTACHMENT C

FINAL STAFF REPORT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

| ~~Draft~~ Final Staff Report

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

| ~~October 2014~~ March May 2015

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BARRY R. WALLERSTEIN, D.Env.

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APPENDIX A – Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

APPENDIX B – Combined Electricity Fuel Economies for Battery Electric Vehicles and Plug-In Hybrid Electric Vehicles (Model Years 2014 and Older)

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

INTRODUCTION

The South Coast Air Quality Management District (SCAQMD or District) is developing a protocol to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to encourage workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the South Coast Air Quality Management District where charging stations can be installed for use by the general public, or at private parking lots and structures designated for employee parking only. The latter includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

The Protocol provides consistency in the evaluation, approval, and monitoring of all electric vehicle charging station projects generating emission reductions for the Rule 2202 program. It will also serve as guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation. Implementation of electric vehicle charging station projects may generate Rule 2202 credits only through a SCAQMD-approved Rule 2202(f)(6) application.

If an electric vehicle charging station project is proposed under a Rule 2202 AQIP solicitation, the project shall comply with the provisions of this Protocol. Emission reductions associated with the Rule 2202 AQIP project are used by the SCAQMD to meet Rule 2202 emission targets as specified in Rule 2202. Rule 2202 credits may not be generated under a Rule 2202 AQIP project.

The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review. On January 14, 2014, the SCAQMD received a proposed quantification protocol for electric vehicle charging stations from the Los Angeles Department of Water and Power (LADWP) and Southern California Edison

(SCE). LADWP and SCE requested a Rule 308 Emission Reduction Project Review of the quantification protocol for future use under Rule 2202(f)(6). After staff's review of the proposed protocol submitted by LADWP and SCE, staff indicated to LADWP and SCE that the additional provisions must be developed in order for the protocol to be approvable. Since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in compliance with Rule 2202, staff has prepared this protocol for public review and comment. The protocol will be considered by the SCAQMD Governing Board after public comments have been received and an environmental assessment has been performed.

The full text of the ~~proposed~~ Protocol is provided in Appendix A.

SUMMARY OF THE ~~DRAFT~~ EMISSION REDUCTION QUANTIFICATION PROTOCOL

The emission reduction quantification equation and the generation and use of credits toward compliance with Rule 2202 are discussed in the following sections. The draft Protocol contains the following elements:

- (A) Purpose
- (B) Applicability
- (C) Definitions
- (D) Eligible Projects
- (E) Credit Generator Requirements
- (F) Emission Reduction Quantification
- (G) Credit Generation, Issuance, Use, and Project Life
- (H) Monitoring, Recordkeeping, and Reporting
- (I) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions
- (J) Other Conditions

The above elements are summarized below.

Subdivision (a) – Purpose

The purpose of the Protocol is to incentivize the deployment of electric vehicle charging stations at workplaces by establishing procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

Subdivision (b) – Applicability

The Protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District where the charging stations are accessible to the general public, or at private parking lots and structures designated for employee parking only.

Subdivision (c) – Definitions

The ~~draft~~ Protocol contains the following definitions.

1. **Average Vehicle Ridership (AVR):** The current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
2. **Contractor:** A person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) Applicant to implement the Project.
3. **Electric Vehicle Charging Station (EVCS):** A device or station that provides power to charge the batteries of a dedicated electric vehicle or a plug-in hybrid electric vehicle. These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.
4. **Emission Reduction Target (ERT):** The annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
5. **Employer:** Any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same worksite and report to one common governing board or governing entity, or that function as one corporate unit are considered to be one employer.

6. **Reporting Period:** Every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application. Regardless, the maximum reporting period is 12 months.
7. **Rule 2202(f)(6) Applicant:** Any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this Protocol.
8. **Rule 2202 Credit:** The emissions reductions resulting from electricity consumption as calculated by the emissions reduction quantification equation provided in this Protocol, and are generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
9. **Worksite:** A structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone.
10. **Zero-Emission Vehicle (ZEV):** For the purposes of the Protocol, a zero-emission vehicle is any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEVs).

Subdivision (d) – Eligible Projects

Eligible projects include installation of new electric vehicle charging stations after the approval of the Protocol by the SCAQMD, or installation of electric vehicle charging stations on or after January 14, 2014 (the date the SCAQMD received LADWP's and SCE's request for approval of a protocol). Eligible projects include the installation of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only. Charging stations installed in residential homes or multi-unit dwellings are not eligible projects under this Protocol.

To avoid double-counting of the Rule 2202 credits generated through an SCAQMD-approved EVCS project, this subdivision provides the following conditions as applicable:

- Electric vehicle charging stations that have received full funding from California Energy Commission, California Air Resources Board, or SCAQMD including charging stations that may be funded by the Mobile Source Air Pollution Reduction Review Committee (MSRC), are not eligible for the generation of Rule 2202 credits. Electric vehicle charging stations that received partial funding from one of the entities listed above are eligible to generate credits. However, the Rule 2202(f)(6) Applicant must provide sufficient documentation as part of the Rule 2202(f)(6) application that the charging stations identified for the EVCS project received partial funding from the entities listed above and the amount of funding. For those stations that received partial funding, the credits generated are prorated according to the funding received as provided in the Emissions Reduction equation for credit generation discussed below.
- If the parking lot or structure under the EVCS project is owned by or has an arrangement with a Rule 2202 employer to provide parking to its employees, the Rule 2202 employer cannot account for zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).

Subdivision (e) – Credit Generator Requirements

This subdivision contains the requirements for an entity to generate Rule 2202 credits. To be eligible to generate Rule 2202 credits, a Rule 2202(f)(6) application must be submitted to the SCAQMD for approval. The application shall include all monitoring, recordkeeping, and reporting requirements and emission reduction calculation methods that are to be used for the proposed project as provided in subdivision (h).

For projects that install electric vehicle charging stations after the date of approval of the Protocol by the SCAQMD Governing Board, a Rule 2202(f)(6) application must be submitted within 90 days from the date of installation of the charging stations.

For projects with electric vehicle charging stations that were installed on or after January 14, 2014 and prior to the date of approval of the Protocol by the SCAQMD Governing Board, a Rule 2202(f)(6) application must be submitted within 90 days from the date of approval of the Protocol by the SCAQMD Governing Board to be eligible to generate Rule 2202 credits.

For projects that install new electric vehicle charging stations at locations with existing charging stations that were installed prior to January 14, 2014, a demonstration must be provided with the application indicating how the new electric vehicle charging stations will be monitored separately from the existing charging stations.

Subdivision (f) - Emission Reduction Quantification

Emission reductions generated would be based on actual electricity consumption at the electric vehicle charging station(s) located within the jurisdiction of the South Coast Air Quality Management District and as provided in Attachment I of Rule 2202.

The quantification of the emission reductions is calculated using the following equation. The equation is provided below.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NOx, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy’s website (kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NOx, or CO (lbs/year/daily commute vehicle) as provided in Table 25, [Appendix B of the Rule 2202 On-Road Motor Vehicle Mitigation Options Annual Program Compliance Forms – Emission Factor Methodology](#)

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is one, if the electric vehicle charging stations were funded entirely by the California Energy

Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for **EF** from lbs/year to lbs/mile

DF= Discount Factor for the VOC, NO_x, or CO
(Default = 1.20)

A default average combined fuel economy value is used for **FE**, based on the average combined electricity fuel economies for all BEVs and PHEVs listed on the Department of Energy’s website for the current model year and all previous model years for the reporting period (e.g., if the reporting period is 2014, the average of the fuel economies of BEVs and PHEVs for Model Year 2014 and older would be calculated). The combined electricity fuel economies may be found at www.fueleconomy.gov. Specific combined electricity fuel economies for each vehicle may be used, provided that the specific activity levels for each vehicle are identified and reported. In addition, the methodology for calculating vehicle specific fuel economies shall be provided in the Rule 2202 AQIP contract or in the Rule 2202(f)(6) application. The calculation of the average for Model Year 2014 and 2013 is provided in Appendix B.

The emissions factors for VOC, NO_x, and CO are provided in Table 25, [Appendix B of the Rule 2202 On-Road Motor Vehicle Mitigation Options Annual Program Compliance Forms- Emission Factor Methodology](#) and are provided below for reference.

Table 1. VOC, NO_x, and CO Emission factors
(lbs/year per daily commute vehicle)

	VOC	NO_x	CO
2014	3.34	3.43	36.96
2015	3.02	3.07	33.29
2016	2.75	2.77	30.14
2017	2.49	2.50	27.28
2018	2.27	2.27	24.82
2019	2.11	2.09	22.86
2020	2.00	1.95	21.47
2021	1.92	1.85	20.39
2022	1.84	1.76	19.43

2023	1.77	1.68	18.57
2024	1.71	1.61	17.88
2025	1.66	1.56	17.32

A default value of 1.2 is used for the discount factor (*DF*) to account for uncertainties such as those associated with the combined fuel economies of the specific fleet of vehicles charging at the EVCS, potential in-basin powerplant emissions due to the electricity consumption from electric vehicle charging, and to provide additional benefit to the environment.

Emission reductions are subject to verification by the SCAQMD, and an inspection may be conducted at any time by the SCAQMD or an entity designated by the SCAQMD.

The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.

Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize deployment of zero-emission vehicles.

Subdivision (g) - Credit Generation, Issuance, Use, and Project Life

This subdivision contains the requirements for generating Rule 2202 credits, the conditions to be met before credits are issued, the use of the credits, and their project life.

Rule 2202 credits generated from electric vehicle charging station (EVCS) projects must meet the minimum requirements specified in the Protocol. Specifically, Rule 2202 credits generated:

- Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202(f)(6) application to implement an EVCS project;
- Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
- Shall only be applied towards compliance as allowed under Rule 2202;
- May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
- Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations.

To ensure that the electric vehicle charging stations identified in the Rule 2202 AQIP contract or Rule 2202(f)(6) application are properly installed, all projects will be inspected by the SCAQMD prior to and following project implementation. In addition, the Contractor or Rule 2202(f)(6) Applicant must grant access to the site where EVCSs are installed for auditing and/or inspection purposes.

Rule 2202 credits or emissions reductions generated under a Rule 2202 AQIP contract will not be issued by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify the project was implemented as approved. This provision shall be included in the contracts and/or agreements between the Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.

If a Rule 2202 employer obtains Rule 2202 credits under the Protocol through their own EVCS program or a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.

If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.

Lastly, the project life will be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.

Subdivision (h) – Monitoring, Recordkeeping, and Reporting

An EVCS project approved under Rule 2202 AQIP or Rule 2202(f)(6) must achieve real, quantifiable, enforceable, and surplus emission reductions consistent with the compliance provisions pursuant to Rule 2202 and implement the provisions provided in Rule 2202(f) [namely to use credits issued pursuant to one or more of the emission reduction options listed in Rule 2202(f) to meet the Emission Reduction Target (ERT)]. The term “surplus” referenced in this document and the protocol, is used only for Rule 2202 compliance and is not intended for use outside of the scope of Rule 2202 compliance (i.e., credits used in other SCAQMD rules or purposes to meet State Implementation Plan (SIP) obligations unless these credits are allowed under those rules). The Contractor or Rule 2202(f)(6) Applicant will need to keep records to ensure that the Rule 2202 credits are appropriately generated and used accordingly.

The project would need to adhere to the following monitoring, recordkeeping, and reporting requirements:

Monitoring

The Contractor or Rule 2202(f)(6) Applicant must provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or Rule 2206(f)(6) application (for Applicant or its Contractor) on how electricity consumption during vehicle charging will be monitored and recorded for reporting purposes. If the electric vehicle charging stations do not have dedicated electricity consumption (e.g., Level 1 charging), then a dedicated, non-resettable, totalizing electric meter capable of measuring electricity usage must be installed for each electric vehicle charging station or each group of electric vehicle charging stations under the project. The electricity consumed must be recorded as required under the Recordkeeping Section of the Protocol. The Contractor or Rule 2202(f)(6) Applicant may provide documentation as part of the AQIP solicitation (for Rule 2202 AQIP Contractor) or in the Rule 2202(f)(6) application (for Applicant or its Contractor) that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

If the electric meter requires repair and/or replacement, a maintenance record must be prepared and submitted to the SCAQMD with the activity level data report as provided in the Reporting Section. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application must be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.

Recordkeeping

The Contractor or Rule 2202(f)(6) Applicant must ensure that the following records are maintained:

- A log of total electricity consumption (the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
- Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;

- Rule 2202 credits claimed (or emission reductions generated for a Rule 2202 AQIP project), and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
- Records of any maintenance or repairs performed; and
- The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.

Records shall be maintained by the project proponent during the project life and for three years after the termination of the contract.

Reporting

To ensure timely implementation of an EVCS project, the Contractor or Rule 2202(f)(6) Applicant are required to submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.

Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval. Each activity level data report must be submitted within 60 days after the end of the reporting period to ensure credit issuance is closely tied to EVCS activity and the ability for SCAQMD staff to inspect/verify current records of activity. A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period. If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

The SCAQMD will notify the Applicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete. Upon receipt of any resubmittal or additional information after the request has been deemed incomplete, a new 30-day period will begin. Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.

Each activity level data report would, at a minimum, include:

- A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;
- Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);
- Time period that the report covers;
- Actual emission reductions, as calculated by the SCAQMD approved method;
- A brief description of any maintenance or repairs performed during the reporting period; and
- All assumptions, calculations, and factors used to determine the activity level and to derive the actual emission reductions that are not already included in the proposal/application;

**Subdivision (i) – Auditing and Failure to Implement Rule 2202(f)(6)
Application Provisions or AQIP Contract Provisions**

To ensure that Rule 2202 credits are properly generated and used, or AQIP emission reductions are generated, the SCAQMD may request that records created under subdivision (h) be inspected upon request by the SCAQMD.

If the Contractor or Rule 2202(f)(6) Applicant fails to adequately maintain records/logs, Rule 2202 credits or emission reductions will not be approved for any period in which the records/logs were not maintained.

To ensure that the inspection and auditing process proceed in a timely manner, if the requested records are not provided within ten business days of the request, loss of Rule 2202 credits or emission reductions may result for the time period following the request up until the time that records are produced. In addition, egregious or prolonged delays (greater than 45 days) in submittal of requested records may result in more severe penalties including rescinding of unused credits approved for a prior reporting period.

Lastly, any Rule 2202(f)(6) Applicant or Contractor who falsifies information in the application or fails to implement any provision of the application, will be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code. The SCAQMD may also take one or more of the following actions: 1) rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or 2) designate the Applicant to be ineligible to generate Rule

2202 credits or emission reductions pursuant to this program or any other District program.

Subdivision (j) – Other Conditions

This subdivision contains other conditions that are not covered by the previous subdivision. At this time there is only one other condition provided in this subdivision. As of the date of this report, there are no District regulations regarding the generation of credits through deployment of electric vehicle charging stations. However, should such a regulation be adopted by the District Governing Board, and to the extent that conflicting provisions are contained in the approved District regulation, the provisions of the regulation, and not of the Protocol, would be controlling.

CALIFORNIA ENVIRONMENTAL QUALITY ACT (CEQA)

Pursuant to California Environmental Quality Act (CEQA) Guidelines §15252 and AQMD Rule 110, a Draft Environmental Assessment (EA) for the Rule 2202 Emissions Reduction Quantification Protocol for Electric Vehicle Charging Station Projects, has been prepared. The Draft EA was released for a 30-day public review and comment period beginning on January 27, 2015, and ending on February 25, 2015. Two comment letters were received from the public. One comment letter addressed to CEQA staff did not raise CEQA issues and response to comments has been addressed in the Final Staff Report for the Rule 2202 Emission Reduction Quantification Protocol instead of the EA. Responses have been prepared for the other comment letter, and both that comment letter and responses to those comments have been incorporated into the EA such that it is now a Final EA.

PUBLIC COMMENTS

Comments and Responses

A public consultation meeting was held on November 19, 2014. Representatives from Los Angeles Department of Water and Power (LADWP), Southern California Edison (SCE), and the general public attended the meeting and provided comments to SCAQMD staff on the proposed quantification protocol. Additionally, written comments were submitted subsequent to the public consultation meeting from LADWP, a public agency, a private consultant, and a non-profit organization. The comments are summarized below:

Comment 1: Concerns were raised regarding the provision which does not allow charging stations to be eligible for credit generation if the station was fully or partially funded by the California Energy Commission, the California Air Resources Board, SCAQMD, and the Mobile Source Air Pollution Reduction Review Committee.

- Response 1: Staff has revised the provision to allow for the proration of the total credits generated if the electric vehicle charging stations receive partial private funding. The formula for the credits generated from the use of the electric vehicle station now includes a multiplication factor which prorates the total credits according to the amount of private funding compared to the total funding for the station.
- Comment 2. The provision that limits eligible electric vehicle charging stations installed within one year from the date of protocol approval should be revised to allow electric vehicle charging stations installed since 2009 to generate Rule 2202 credits for use in Rule 2202 compliance since there were discussions in previous workshops concerning credit generation for electric vehicle charging stations.
- Response 2. Since the development of the quantification protocol is to incentivize greater deployment of charging stations in the workplace, placing emphasis on existing installation would not be effective for this purpose. In addition, many of the electric vehicle charging stations installed earlier than the one year timeframe were being done to either incentivize employees to purchase zero-emission vehicles, which may have been credited in prior year Rule 2202 compliance or were installed through public incentives funding. As such, staff limited the eligibility of existing charging stations to the one year period, which at the time coincided with the date a request was made to develop the quantification protocol. Staff has revised the one year period to reflect the date of receipt of the request (January 14, 2014) given the timing of when the protocol will be before the SCAQMD Governing Board for approval.
- Comment 3. Rather than require recordkeeping on a monthly basis, the recordkeeping requirements should be consistent throughout the protocol and should allow monitoring and recording of usage on an annual or semi-annual basis.
- Response 3. To avoid overly burdensome reporting requirements, the draft protocol has been revised to no longer require a monthly log of total electricity consumption be kept and provided as part of the reporting requirements. However, the applicant must provide a description of the records that will be kept by the applicant for the purpose of generating credit and reporting every three-months as required in subparagraph (h)(3)(A).

Comment 4. In most cases, electric vehicle charging stations do not have utility meters dedicated for billing. The metering requirements should be modified accordingly.

Response 4. The requirement to log electricity consumption from a dedicated, non-resettable electricity meter(s) has been removed. However, if a meter cannot be installed on an electric vehicle charging station or on a group of charging stations, an alternative equivalent form of reporting electricity usage may be proposed as part of the Rule 2202 AQIP Contract or Rule 2202 (f)(6) application, subject to SCAQMD approval.

Comment 5. The media used to record electricity consumption data should not be restricted to non-rewritable, non-volatile media, such as a compact disk.

Response 5. The protocol has been revised to address the concern and allows any other storage media such that the data can be readily accessed at the request of SCAQMD.

Comment 6. The formula to translate kWh/year to VOC, NO_x and CO should be revised, and the values of EF, the emission factors for VOC, NO_x and CO (lbs./year), should be reevaluated. Rather than using emission factors from EMFAC based upon the average fleet vehicle within the SCAQMD jurisdiction, the emission factors for the proposed protocol should be set based upon a weighted average emissions of model years for the electric vehicle fleet within the SCAQMD jurisdiction as compared to the emissions from like model years of non-electric vehicles.

Response 6. The emission factors used in the protocol quantification methodology are the same emission factors used for overall Rule 2202 compliance, which are based on in-use fleet average emissions according to the latest official version of EMFAC (EMFAC2011 – CARB’s official emission factor model), for consistency with the emission quantification procedures in Rule 2202, as well as the established expectation that commute vehicle emissions on average are adequately represented by EMFAC in-use fleet average emissions.

Comment 7. The formula to translate kWh/year to VOC, NO_x and CO should be revised with regard to the factor that converts the emission factor from lbs/year to lbs/mile (8320). Currently the formula assigns all

kWh/year from electric charging stations to commute miles only, roughly half of the average California passenger vehicle mileage for a year. The underlying assumption is that the electric vehicle owner who has access to an electric vehicle charging station at work, only uses the battery charge for their daily commute to/from work and not for any other mileage. Since most employers do not charge employees for using an electric charging station and charging at home is not free, most electric vehicle owners that take advantage of charging at their work location and incentivized to charge at work over charging at home. In order meet the goals of surplus and real, the conservative approach should be taken and the conversion factor should include the average yearly miles for both commuting and personal trips.

Response 7. It is irrelevant whether the vehicle owner's motivation is to charge the vehicle for commute or personal purposes. The factor that converts lbs/year to lbs/mile is based on Rule 2202 emission quantification procedures found in the Rule 2202 - On-Road Motor Vehicle Mitigation Options Implementation Guidelines. The factor is based on 260 commute days per year and 32 total commute miles per vehicle per day (2 trips per day X 16 miles per trip). Since the primary objective of the protocol is to encourage greater deployment of electric vehicle charging stations at worksites, the conversion factor is based on the average commute trip of 16 miles per trip, which may be shorter or longer on an individual basis. The electricity consumed during the charging of the vehicle would account for either commute or personal trips since the last time the vehicle was charged. ~~As such, it is irrelevant whether the vehicle owner's motivation is to charge the vehicle for commute or personal purposes.~~

Comment 8. Based upon the Draft Staff Report, the formula to translate kWh/yr to VOC, NOx and CO utilizes a "discount factor to account for uncertainties such as those associated with: (1) combined fuel economies of the specific fleet of vehicles charging at the electric vehicle recharging station; (2) potential miles driven for non-commute purposes; (3) potential in-basin power plant emissions due to additional electricity needs; and (4) generation of additional benefit to the environment. Is this the complete set of factors that are incorporated into the discount factor? Can the SCAQMD please provide a range of expected contribution for the listed factors and any other factors that may be included in this discount factor?

Response 8. The four factors were the only factors that staff believes should be considered when the draft Protocol was released in October 2014. Staff has not received any comments providing any additional factors. The four factors are discussed further in the following sections.

Appendix B of the staff report has been revised to include the fuel economies of model year 2015 vehicles and the average fuel economy is 0.34 kWh/mi. The standard deviation is also provided in Appendix B. With a standard deviation of 0.06, the percent uncertainty is around 17.6% and represents a portion of the 1.2 factor. The 17.6% value represents a broad range of battery-electric and plug-in hybrid vehicle models that are commercially available for sale. In addition, there is a broad range of fuel economy factors as shown in Appendix B. Based on national sales information [see Inside EVs (<http://insideevs.com/cumulative-us-plug-electric-vehicle-sales-model-model-breakdown-market-share-data-december-2014/>)] , there are a smaller number of vehicle models actually operating on the road with the Nissan Leaf being the greatest number. Taking the population weighted average kWh/mi of the vehicles actually operating on the road, the average fuel economy is around 0.33 kWh/mi. As such, the standard deviation provided in Appendix B represents an upper limit and the 17.6% value is a conservative estimate for discounting purposes.

In the October 2014 release of the draft protocol, staff indicated that electric vehicle charging of vehicles that are used for non-commute purposes would be discounted. However, Rule 2202 (f)(6) allows for projects related to non-work trips. As such, reference to non-work trips has been removed from the staff report.

The other portion of the discount factor relates to the in-basin powerplant emissions associated with electric vehicle charging. Based on average powerplant emissions per kWh generated and the average kWh/mi associated with electric vehicles, one can estimate the amount of emissions associated with the charging of an electric vehicle. SCE has an estimate of the NO_x, VOC, and CO emissions per MWh of 0.3115, 0.128, and 0.0388 lbs, respectively. Based on this number, an average fuel economy of 0.34 kWh/mi, and average annual miles of 12,600 from the EMFAC model, staff estimated the NO_x emissions from a SCE powerplant is around 2.05 lbs/year/vehicle. The average VOC, NO_x, and CO emissions from a gasoline-powered vehicle are 40.36, 31.32, and 374.78 lbs/year. The percent of total vehicle

emissions associated with electric vehicle charging is around 0.0374 [2.05/(40.36+31.32+374.78)] or 3.74%. This percent accounts for a portion of the discount factor of 1.2.

To the extent that the uncertainties in calculating an average fuel economy compared to actual mix of zero-emission vehicle are less than the 17.6% discussed above and powerplant emissions continue to decrease, staff recommends that the discount factor remains at 1.2 to provide assurance that the credits generated may have other uncertainties not identified at this time and provide some environmental benefit ~~in that the credits are not overly relied upon for Rule 2202 compliance since electric vehicle charging projects purpose is to encourage greater deployment of zero-emission vehicles and by themselves do not reduce emissions if the uncertainties are reduced.~~

Comment 9. As designed, the protocol for electric vehicle charging stations provides a strong economic incentive and opportunity to cheat. With this in mind, the recordkeeping requirements for this protocol, as well as the penalties for inaccurate or false reporting under this protocol, should be more stringent and provide a greater penalty than other protocols currently in affect. The ability for an organization to circumvent the intended result is easy and readily available if the primary recordkeeping requirement is only to measure and report the electricity running through the electric charging station.

Response 9. The protocol contains provisions covering all applicable aspects of monitoring, recordkeeping and reporting, to be documented as part of the Rule 2202(f)(6) application or the AQIP solicitation. These include the use of appropriate electrical usage meters, repair and maintenance of usage meters, credits issued only for electric vehicle recharging stations as identified in the application, quarterly/semi-annual progress reports, and auditing requirements (see subdivision (h) of the protocol). In addition, any person that falsifies information in an application or fails to implement any provision of an application will be subject to stringent penalties as allowed under law including those in the California Health & Safety Code.

Comment 10. The protocol does not account for inefficiencies of electric vehicle recharging stations, batteries, electric motor, and leakage issues associated with electric vehicles.

Response 10. The vehicle's performance efficiency is accounted in the fuel economy reported by the vehicle manufacturer (see Appendix B) and a discount factor is applied to account for the variation in fuel economies from vehicle to vehicle (see Response 8). There is no need to account for the inefficiencies since the actual amount of electricity use to charge the vehicle accounts for the inefficiencies. Over time the actual fuel economy may vary from the reported fuel economy. As an example, over time the batteries may not retain the ability to hold a complete charge. As such, the batteries must be recharged more often resulting in an increase in the average fuel economy. The discount factor accounts for this variation in the fuel economy.

Comment 11. In "AMPING UP CALIFORNIA WORKPLACES: 20 CASE STUDIES ON PLUG-IN ELECTRIC VEHICLE CHARGING AT WORK" the LADWP case study states the following: "The typical installation cost was \$4,000 per charging station. However, grant funding has brought down the total cost per station to \$2,000. Funding comes from the utility's operating budget and grants. Charging is free for employees and visitors since LADWP's motivations are to benefit employees and visitors and to encourage PEV adoption. DWP allows non-employee charging at their charging stations. As a case study for the proposed protocol, how would the protocol be applied to this case study?"

Response 11. With regard to the basic parameters of this case study, the grant funding would be addressed by the "FD" term in the emission reduction equation (see paragraph (f)(2) of the protocol) reflecting the partial private funding. In the example provided, the credits generated will be discounted by 0.5 ($\$2,000/\$4,000$) or 50% since the total cost of \$4,000 is brought down to \$2,000. The use of electricity dispensed by the recharging station(s) for non-employee electric vehicle recharging to generate credits as well as free recharging to employees are allowed under the protocol.

Comment 12. Has the SCAQMD developed a yearly cumulative projection of the number of current and new electric charging stations and/or kWhr/year that will be qualified under this protocol?

Response 12. Since this protocol is voluntary and use of the protocol depends on a number of factors, cumulative projections of the number current and new electric charging stations and/or kWhr/year that will be qualified under this protocol cannot be specifically quantified at this time. Any

projections will be speculative at this time and may not represent what will actually occur. However, such information would be available with the monitoring and recordkeeping provisions of the protocol. Staff will be monitoring the overall efficacy of the program.

Comment 13. Has the SCAQMD developed a yearly cumulative projection of the number of VOC, NOx and CO MSERCs that will be qualified and generated under this new protocol for use in Rule 2202?

Response 13. Since this protocol is voluntary, and use of the protocol depends on a number of factors outside the control of SCAQMD, cumulative projections of the number of VOC, NOx and CO credits that will be qualified and generated under this new protocol for use in Rule 2202 cannot be specifically quantified at this time. Staff will provide reports on the program as it is implemented. See Response to Comment #12.

Comment 14. Will the SCAQMD and Transportation Programs develop an estimate of the probability and associated timing to predict when VOC, NOx and CO credits generated from this protocol will saturate the Rule 2202 marketplace and reduce emission costs for employers who chose the ERS compliance option? This effort is advisable as this will affect funding of other emission reduction projects generating credits utilized for Rule 2202 compliance and incentivize employers to switch from ECRP/AQIP strategies to ERS strategies.

Response 14. The Commentor is referred to Response (13). Rule 2202 provides flexibility to affected employers to comply with the average vehicle ridership targets through a choice of several equivalency options. The rule does not favor one option over another option and the affected employers will choose the option that is most cost-effective to comply with the rule. Staff will be monitoring the use of credits for compliance with Rule 2202 and will assess the program along with other strategies being used by affected Rule 2202 employers as part of the annual progress report to the SCAQMD Governing Board.

Comment 15. At the Public Consultation and CEQA Scoping Meeting on November 19, 2014, the SCAQMD, under the Proposed Protocol Purpose heading, set a goal that the emission reductions under this protocol should be real, quantifiable, surplus and enforceable. However, the protocol will qualify electric vehicle charging stations installed one year prior to protocol approval by SCAQMD and include electric

vehicles that were purchased several years ago. Please explain how credits from prior installations and currently used vehicles are surplus and additional under this protocol.

- Response 15. The credits generated under the protocol must be “real, quantifiable, enforceable, and surplus” **only** for the purposes of Rule 2202 compliance as allowed in Rule 2202(f). They do not apply towards the region’s attainment or any other program or regulation unless those programs or regulations allow for such use. There are provisions in the protocol that ensure a Rule 2202 affected employer does not take credit for dedicated electric vehicles via the ECRP option while using the Rule 2202 credits for compliance purposes.

Rule 2202 is currently being evaluated by the U.S. EPA for approval into the State Implementation Plan. As part of the discussions with U.S. EPA, staff indicated that emission reduction benefits of the rule should be taken retrospectively rather than meeting prospective emission reduction commitments given the voluntary nature of the emission reduction strategies option of Rule 2202. This will provide an addition level of evaluation to ensure that emissions benefits from Rule 2202 are “surplus”.

The “real, quantifiable, and enforceable” conditions are ensured through the provisions provided in the Protocol, which include the emissions reduction calculation methodology and the monitoring and reporting requirements.

- Comment 16. The projected emissions savings from the alternative use of electric vehicles relies upon the availability of electricity -- generation, distribution and dispensing -- as well as innovative technologies for electric batteries and electric vehicles, and is dependent upon adoption rates. However, the protocol proposed to grant emission credits to the owner of the electric charging station only. Is this appropriate? Are electric utility companies, battery manufacturer’s and electric vehicle manufacturer’s informing stakeholder’s for the development of this protocol? How will the SCAQMD decide between this protocol’s emission reductions and past, current or future emission reduction crediting for other portions of the value chain?

- Response 16. The protocol’s purpose is to incentivize greater deployment of electric vehicle charging stations at the workplace and in turn, increase the adoption rates for zero-emission vehicles. The credits generated can

only be used by Rule 2202 employers. As such, the credits have no value to battery and electric vehicle manufacturers if they are not subject to Rule 2202. As part of the outreach on Rule 2202 implementation, staff will inform Rule 2202 employers on the opportunities to either generate credits through electric vehicle charging station projects or acquiring credits to comply with Rule 2202 from such projects.

Since the purpose of the Protocol is to help encourage greater use of the zero-emission vehicles, the deployment of electric vehicle charging stations in themselves do not have emission reductions, but rather the use of the zero-emission vehicles compared to conventionally fueled vehicles. Those reductions are accounted by CARB in the Advanced Clean Car regulations. Within the scope of Rule 2202, the use of zero-emission vehicles reduce the emissions associated with vehicle miles traveled (VMT). There is a provision in the federal Clean Air Act that calls for a demonstration that emissions associated with increases in VMT be reduced.

Comment 17. How will the SCAQMD avoid double counting of VOC, NO_x, and CO emission credits associated with this protocol? Is this a requirement? For example, the CA ZEV credits are quantified based upon GHG calculations that include the VOC, NO_x and CO emissions from passenger vehicles of the same model year. Are the CARB ZEV credits not “real” credits? Are the emission reduction credits generated under this protocol from vehicles that already exist and electric charging stations that already exist or are already funded and planned real and surplus?

Response 17. See Response to Comments 15 and 16. The credits are not “double-counted” to other programs such as CARB’s Advanced Clean Car Regulation since the universe of credit users are different (i.e., CA ZEV credits can only be used among automobile manufacturers and the Rule 2202 credits only for Rule 2202 employers). . The credits cannot be used to meet other program or rule compliance unless allowed for use by those programs or regulations. In addition, there are provisions in the draft protocol to ensure that the credits are not “double-counted” by an affected Rule 2202 employer for rule compliance purposes. Relative to the question regarding existing charging stations and existing vehicles, the credits generated under the draft protocol are from zero-emission vehicles charging at existing

charging station sites installed on or after January 14, 2014 and new sites.

Comment 18. The emissions reductions quantification, based upon the Federal EPA, understates the emission reductions from PHEVs within the region.

Response 18. The emission credit calculation is based on the assumption that the electricity consumption with the charging of the vehicle will be used for a commute trip and the vehicle miles travelled associated with the trip for Rule 2202 purposes only. As such, these emission reductions are a subset of the total emission reductions associated with PHEVs operated within the region.

Comment 19. The protocol should allow credit for subsidized recharging.

Response 19. The ~~draft~~ Protocol does not distinguish between chargings that are subsidized and those that are not subsidized, since either satisfies Rule 2202 purposes. As such, credit generation is allowed. The emission credit calculation only takes into account the actual amount of electricity consumed to charge the vehicle when connected to a charging station that has been identified as part of the project.

Comment 20. Replacement electric vehicle charging stations that reflect next generation technology should be eligible to generate credit under the protocol.

Response 20. The protocol does not distinguish between replacements of existing stations with newer electric vehicle charging stations that are identified as part of the charging station project. As such, replacement charging stations would be eligible to generate credits.

Comment 21. More PHEVs are needed and PHEVs with greater electricity storage.

Response 21. SCAQMD staff appreciates the comment that more plug-in hybrid vehicles are needed. Over time, as technological advances are made to the battery storage capacity, we expect to see greater number of plug-in hybrid and dedicated battery-electric vehicles with longer range between charges. More PHEV's require more charging stations.

Comment 22. There will be significant changes to the electrical grid regarding use of renewable energy sources such as solar, as well as electricity storage

and bidirectional flow relative to electric vehicles becoming our rolling energy storage.

Response 22. The SCAQMD staff appreciates the comments on use of renewable energy sources.

Comment 23. The protocol should look at the big picture relative to electric vehicle charging stations supporting all vehicle trips, not just home-to-work-commute related trips.

Response 23. As discussed in Response to Comment 7, the electric vehicle charging station does not distinguish what type of trip was made, only on the amount of electricity consumed to recharge the vehicle's batteries. Since part of the trip is the distance from the vehicle owner's home to the worksite charging station, the electricity used for the commute portion is covered. Any additional electricity consumption to fully charge the vehicle would cover any prior commute trips and personal trips.

Comment 24. On September 9, 2011, the AQMD Board adopted its Air Quality Related Energy Policy. This policy includes the promotion of zero and near-zero technologies in both stationary and mobile applications to meet air quality, energy security and climate change objectives. Additionally, the AQMD Board adopted a policy to promote electricity storage technology to improve supply reliability, availability, and increased generation technology choices. The proposed protocol provides a means for quantifying the credits for EV infrastructure for workplace charging at covered sites.

Response 24. The SCAQMD staff appreciates the comments provided. The SCAQMD is making every effort to promote deployment of zero-emission technologies to the greatest extent feasible.

REFERENCES

South Coast Air Quality Management District (2014). Rule 2202 – On-Road Motor Vehicle Mitigation Options. June 6, 2014.

South Coast Air Quality Management District (2014). Rule 2202 – On Road Motor Vehicle Mitigation Options Annual Program Compliance Forms. July 2014.

South Coast Air Quality Management District. Rule 2202 – On-Road Motor Vehicle Mitigation Options Implementation Guidelines. June 6, 2014.

APPENDIX A

DRAFT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

**THE ~~DRAFT~~ PROTOCOL IS PROVIDED IN AN EARLIER PART OF THE
BOARD PACKAGE AND WILL BE INSERTED HERE UPON ADOPTION
BY THE SCAQMD GOVERNING BOARD**

Appendix B

Combined Electricity Fuel Economies for Battery Electric Vehicles and Plug-In Hybrid Electric Vehicles (Model Years [2014-2015](#) and Older)

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
Battery Electric Vehicles		
2015	BMW I3 BEV	0.27
2015	Chevrolet Spark EV	0.28
2015	Fiat 500e	0.29
2015	Ford Focus Electric FWD	0.32
2015	Kia Soul Electric	0.32
2015	Mercedes B-Class Electric Drive	0.40
2015	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2015	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2015	Nissan Leaf	0.30
2015	Tesla Model S (85 kW battery pack)	0.38
2015	Tesla Model S (60 kW-hr battery pack)	0.35
2015	Tesla Model S AWD - P85D	0.36
2015	Tesla Model S AWD - 85D	0.34
2015	Volkswagen e-Golf	0.29
2014	BMW I3 BEV	0.27
2014	BYD e6	0.54
2014	Chevrolet Spark EV	0.28
2014	Fiat 500e	0.29
2014	Ford Focus Electric FWD	0.32
2014	Honda Fit EV	0.29
2014	Mercedes B-Class Electric Drive	0.40
2014	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2014	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2014	Mitsubishi i-MiEV	0.30
2014	Nissan Leaf	0.30
2014	Tesla Model S (85 kW-hr battery pack)	0.38
2014	Tesla Model S (60 kW-hr battery pack)	0.35
2014	Tesla Model S AWD (85 kW-hr battery pack)	0.38
2014	Toyota RAV4	0.44

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
2013	Coda	0.46
2013	Fiat 500e	0.29
2013	Ford Focus FWD BEV	0.32
2013	Honda Fit EV	0.29
2013	Mercedes Smart Fortwo Electric Drive Convertible	0.32
2013	Mercedes Smart Fortwo Electric Drive Coupe	0.32
2013	Mitsubishi i-MiEV	0.30
2013	Nissan Leaf	0.29
2013	Tesla Model S (85 kW-hr battery pack)	0.38
2013	Tesla Model S (60 kW-hr battery pack)	0.35
2013	Tesla Model S (40 kW-hr battery pack)	0.36
2013	Toyota Scion iQ EV	0.28
2013	Toyota RAV4 EV	0.44
2012	Tesla Model S	0.38
2012	Nissan Leaf	0.34
2013	Ford Focus FWD BEV	0.32
2012	Coda	0.46
2012	Mitsubishi i-MiEV	0.30
2012	Toyota RAV4 EV	0.44
2012	Nissan Leaf	0.34
2011	BMW 1 Series Active E	0.33
2011	Smart Fortwo Electric Drive Coupe	0.43
2011	Smart Fortwo Electric Drive Cabriolet	0.43

Plug-In Hybrid Electric Vehicles

2014	BMW I3 REX (PHEV)	0.29
2014	BMW I8 (PHEV)	0.43
2014	Cadillac ELR	0.41
2014	Chevrolet Volt	0.35
2014	Ford C-MAX Energi Plug-in Hybrid FWD	0.37
2014	Ford Fusion Energi Plug-in Hybrid FWD	0.37
2014	Honda Accord Plug-In Hybrid	0.29
2014	Toyota Prius Plug-In Hybrid	0.29

Model Year	Make and Model	Combined Fuel Economy (kWh/mi)
2013	Chevrolet Volt	0.35
2013	Ford C-MAX PHEV FWD	0.37
2013	Ford Fusion PHEV FWD	0.37
2013	Prius Plug-In Hybrid	0.29
2012	Chevrolet Volt	0.36
2012	Prius Plug-In Hybrid	0.29
2011	Chevrolet Volt	0.36

Average 0.34
 Standard Dev. 0.06

*From the U.S. Department of Energy’s Database: www.fueleconomy.gov

ATTACHMENT D

FINAL ENVIRONMENTAL ASSESSMENT

**RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL
FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS**

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

Final Environmental Assessment:

Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects

May 2015

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APPENDIX D – COMMENT LETTER RECEIVED AND RESPONSES TO COMMENTS

PREFACE

This document constitutes the Final Environmental Assessment (EA) for the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects. The Draft EA was released for a 30-day public review and comment period from January 27, 2015 to February 25, 2015. One comment letter was received from the public relative to the Draft EA, and responses to the comments are provided in Appendix D. The environmental analysis in the Draft EA concluded that the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects would not generate any significant adverse environmental impacts.

Minor modifications were made to the proposed amendments subsequent to release of the Draft EA for public review. To facilitate identifying modifications to the document, added and/or modified text is underlined. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5. Therefore, this document now constitutes the Final EA for the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.

CHAPTER 1 - PROJECT DESCRIPTION

Introduction

Affected Facilities

California Environmental Quality Act

Project Location

Project Objective

Project Background

Technology Overview

Project Description

INTRODUCTION

The California Legislature created the South Coast Air Quality Management District (SCAQMD) in 1977¹ as the agency responsible for developing and enforcing air pollution control rules and regulations in the South Coast Air Basin (Basin) and portions of the Salton Sea Air Basin and Mojave Desert Air Basin referred to herein as the District. By statute, the SCAQMD is required to adopt an air quality management plan (AQMP) demonstrating compliance with all federal and state ambient air quality standards for the District². Furthermore, the SCAQMD must adopt rules and regulations that carry out the AQMP³. The Final 2012 AQMP concluded that reductions in emissions of particulate matter (PM), oxides of sulfur (SOx), oxides of nitrogen (NOx), and volatile organic compounds (VOC) are necessary to attain the current state and national ambient air quality standards for ozone, and particulate matter with an aerodynamic diameter of 2.5 microns or less (PM2.5). Ozone, a criteria pollutant which has been shown to adversely affect human health, is formed when VOCs react with NOx in the atmosphere. VOCs, NOx, SOx (especially sulfur dioxide) and ammonia also contribute to the formation of PM10 and PM2.5.

The Basin is designated by the United States Environmental Protection Agency (EPA) as a non-attainment area for ozone and PM2.5 emissions because the federal ozone standard and the 2006 PM2.5 standard have been exceeded. For this reason, the SCAQMD is required to evaluate all feasible control measures in order to reduce direct ozone and PM2.5 emissions, including PM2.5 precursors, such as NOx and SOx. The Final 2012 AQMP sets forth a comprehensive program for the Basin to comply with the federal 24-hour PM2.5 air quality standard, satisfy the planning requirements of the federal Clean Air Act, and provide an update to the Basin's commitments towards meeting the federal 8-hour ozone standard. In particular, the Final 2012 AQMP contains a multi-pollutant control strategy to achieve attainment with the federal 24-hour PM2.5 air quality standard with direct PM2.5 and NOx reductions identified as the two most effective tools in reaching attainment with the PM2.5 standard. The 2012 AQMP also serves to satisfy the recent requirements promulgated by the EPA for a new attainment demonstration of the revoked 1-hour ozone standard, as well as to provide additional measures to partially fulfill long-term reduction obligations under the 2007 8-hour Ozone State Implementation Plan (SIP).

The 2012 AQMP contains several control measures (eg. ONRD-01, Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles; and ONRD-03, Accelerated Penetration of Partial Zero-Emission and Zero Emission Medium-Heavy-Duty Vehicles) that would provide an incentive for the early retirement of older mobile sources and replace them with zero emission electric vehicle technologies.

The purpose of Rule 2202 is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. An employer subject to Rule 2202 is required to annually register with the SCAQMD to implement an emission reduction program that will obtain emission reductions

¹ The Lewis-Presley Air Quality Management Act, 1976 Cal. Stats., ch 324 (codified at Health and Safety Code, §§40400-40540).

² Health and Safety Code, §40460 (a).

³ Health and Safety Code, §40440 (a).

equivalent to a worksite specific emission reduction target (ERT) specified for the compliance year.

The SCAQMD is developing a new Protocol (see Appendix A) to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6), Rule 2202 was most recently amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to incentivize the workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not currently used by that employer to comply with Rule 2202's Average Vehicle Ridership (AVR) target.

AFFECTED FACILITIES

To incentivize the deployment of electric vehicle charging stations at workplaces, the Protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the SCAQMD where the charging stations are accessible to the general public, or at private parking lots and structures designated for employee parking only.

CALIFORNIA ENVIRONMENTAL QUALITY ACT

The Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a "project" as defined by the California Environmental Quality Act (CEQA). SCAQMD is the lead agency for the proposed project and has prepared this final environmental assessment (EA) with no significant adverse impacts pursuant to its Certified Regulatory Program and SCAQMD Rule 110. California Public Resources Code §21080.5 allows public agencies with regulatory programs to prepare a plan or other written document in lieu of an environmental impact report or negative declaration once the Secretary of the Resources Agency has certified the regulatory program. SCAQMD's regulatory program was certified by the Secretary of the Resources Agency on March 1, 1989, and is codified as SCAQMD Rule 110.

CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified. To fulfill the purpose and intent of CEQA, the SCAQMD has prepared this final EA to address the potential adverse environmental impacts associated with the proposed project. The final EA is a public disclosure document intended to: (a) provide the lead agency, responsible agencies, decision makers and the general public with information on the environmental effects of the proposed project; and, (b) be used as a tool by decision makers to facilitate decision making on the proposed project.

SCAQMD's review of the proposed project shows that the proposed project would not have a significant adverse effect on the environment. Therefore, pursuant to CEQA Guidelines §15252

and 15126.6(f), no alternatives are proposed to avoid or reduce any significant effects because there are no significant adverse impacts, and pursuant to CEQA Guidelines §15126.4(a)(3), mitigation measures are not required for effects not found to be significant. The analysis in the form of the environmental checklist in Chapter 2 supports the conclusion of no significant adverse environmental impacts.

Comments received on the final EA during the public comment period and responses to comments are included as Appendix D.

PROJECT LOCATION

The potentially affected facilities are located throughout the SCAQMD jurisdiction. The SCAQMD has jurisdiction over an area of approximately 10,743 square miles, consisting of the four-county South Coast Air Basin (Basin) (Orange County and the non-desert portions of Los Angeles, Riverside and San Bernardino counties), and the Riverside County portions of the Salton Sea Air Basin (SSAB) and Mojave Desert Air Basin (MDAB). The Basin, which is a subarea of the SCAQMD’s jurisdiction, is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto mountains to the north and east. It includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The Riverside County portion of the SSAB is bounded by the San Jacinto Mountains in the west and spans eastward up to the Palo Verde Valley. The federal nonattainment area (known as the Coachella Valley Planning Area) is a subregion of Riverside County and the SSAB that is bounded by the San Jacinto Mountains to the west and the eastern boundary of the Coachella Valley to the east (Figure 1-1).



Figure 1-1
Boundaries of the South Coast Air Quality Management District

PROJECT OBJECTIVE

The objectives of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects are to:

- incentivize the deployment of electric vehicle charging stations at workplaces;
- establish procedures for and provide consistency in the evaluation, approval and monitoring of future electric vehicle charging station projects generating emission reductions submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6);
- provide guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project for Rule 2202 credit by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation.

PROJECT BACKGROUND

Originally adopted in December 1995, Rule 2202 provides employers with a menu of options to reduce mobile source emissions generated from employee commutes. Through Rule 2202 (f)(6), any person may receive credit toward an emission reduction credit for any emission reduction strategy that the employer or other person demonstrates to the Executive Officer achieves real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. Another option for employers to comply with Rule 2202 is to participate in the Air Quality Investment Program (AQIP) in which monies collected by SCAQMD from Rule 2202 employers are used to purchase emission reductions from alternative emission reduction strategies.

The Rule 2202 On-Road Motor Vehicle Mitigation Options Implementation Guidelines (Section II.F) provide that if no applicable emission reduction quantification methodology exists for a project proposed under Rule 2202(f)(6), an emission reduction quantification protocol may be developed and presented to the Mobile Source Committee for review. SCAQMD received an application from Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) to generate Rule 2202 credits from the installation and operation of electric vehicle charging stations, and the proposed Protocol (see Appendix A) has been developed in response to the application. The application letter from SCE and LADWP is provided in Appendix C.

There is a need for a SCAQMD-approved emission reduction quantification Protocol for electric vehicle charging station projects since no protocol currently exists for the purpose of generating Rule 2202 credits from electrical vehicle charging station projects for use in Rule 2202.

TECHNOLOGY OVERVIEW

Because electrical service is widely available throughout the SCAQMD jurisdiction, the widespread development of electric vehicle (EV) charging stations is technically feasible. As provided in the *Installation Guide for Electric Vehicle Supply Equipment (EVSE)*, prepared by the Massachusetts Department of Energy Resources, the following section provides a brief overview of the technology associated with the various types and tiers of EV charging equipment that could be installed in the jurisdiction and qualify for use under the proposed Protocol.

Vehicle Charging Components

Power is delivered to the EV's onboard battery through the *EV inlet* to the onboard *charger*. This charger converts Alternating Current (AC) from the home or site to the Direct Current (DC) required to charge the battery in the vehicle. The onboard charger and EV inlet are considered part of the EV.

A *connector* is a device that, by insertion into an EV inlet, establishes an electrical connection to the EV for the purpose of information exchange and charging. The EV inlet and connector together are referred to as the *coupler*. The EVSE consists of the connector, cord, and interface to utility power. The interface between the EVSE and utility power will be directly "hardwired" to a control device or a plug and receptacle.

During the 1990's, there was no consensus on EV inlet and connector design. Both conductive and inductive types of couplers were designed and in both cases, different designs of each type were provided by automakers. At the present time, however, the Society of Automotive Engineers (SAE) has agreed that all vehicles produced by automakers in the United States will provide an inlet that conforms to a single, specific connector, known as the *J1772 Standard*.



J1772 Coupler

The J1772 Standard EV coupler is designed for 10,000 connections and disconnections with exposure to dust, salt, and water; is able to withstand a vehicle driving over it; and is corrosion resistant. The J1772 Standard and National Electrical Code (NEC) requirements create multiple safety layers for EV components, including:

The EV coupler -

- is engineered to prevent inadvertent disconnection;
- has a grounded pole that is the first to make contact and the last to break contact;
- has an interlock device that prevents vehicle startup while connected;
- is unique to EV charging and cannot be used for other purposes.

The EV inlet -

- is de-energized until it is attached to the EVSE;
- will de-energize prior to removal of the connector.



Charging Station Levels

In 1991, the Infrastructure Working Council (IWC) was formed by the Electric Power Research Institute (EPRI) to establish consensus on several aspects of EV charging. Charging levels were defined by the IWC, along with the corresponding functionality requirements and safety systems. EPRI published a document in 1994 that describes the consensus items of the IWC⁴. **Note:** For Levels 1 and 2, the conversion of the utility AC power to the DC power required for battery charging occurs in the vehicle's on-board charger. In DC Fast Charging, the conversion from AC to DC power typically occurs off-board, so that DC power is delivered directly to the vehicle.

The build out of charging infrastructure with diverse levels of charging will be necessary to the efficient promotion the widespread adoption of EVs. The levels of charging are:

Level 1 – 120 volt AC: The Level 1 method uses a standard 120 volts AC (VAC) branch circuit, which is the lowest common voltage level found in both residential and commercial buildings. Typical voltage ratings can be from 110 – 120 volts AC. Typical amp ratings for these receptacles are 15 or 20 amps. A 15 amp charge takes twice as long as a 20 amp outlet.

EV suppliers provide a Level 1 Cord Set (120 VAC, 15 or 20 amps) with the vehicle. The Cord Set uses a standard 3-prong plug (NEMA 5-15P/20P) with a charge current interrupting device (CCID) located in the power supply cable within 12 inches of the plug. The vehicle connector at the other end of the cord will be the design identified in the J1772 Standard. This connector mates properly with the vehicle inlet, also approved by J1772.

Because charge times can be very long at Level 1, many EV owners will be more interested in Level 2 charging at home and in publicly available locations. Some EV manufacturers suggest their Level 1 Cord Set should be used only during unusual circumstances when Level 2 EVSE is not available, such as when parked overnight at a non-owner's home.

Several companies provide kits to convert ICE and hybrid vehicles to plug-in vehicles. Many of these conversions use a standard 3-prong electrical plug and outlet to provide Level 1 charging to their vehicles. With the standardization of EVs on the J1772 Standard and the higher level of

safety afforded by a J1772-compliant charging station, existing vehicles will need to be retrofitted to accommodate a J1772 inlet in order to take advantage of the deployment of EVSE infrastructure.

Level 2 – 240 volt AC: Level 2 is typically described as the “primary” and “standard” method for the EVSE for both private and publicly available facilities. This method specifies a single-phase branch circuit with typical voltage ratings from 220 – 240 volts AC. The J1772-approved connector allows current as high as 80 amps AC (100 amp rated circuit). However, current levels that high are rare, and a more typical rating would be 40 amps AC, which allows a maximum current of 32 amps. This provides approximately 7.7 kW with a 240 VAC circuit.

The higher voltage of Level 2 allows a much faster battery charge. Because of the higher voltage, Level 2 has a higher level of safety requirements than Level 1 under the NEC, including the requirement that the connector and cord be hardwired to the control device and premise’s wiring.



DC Fast Charging (Level 3): This type of charging connection can raise the rate of charge to approximately 75% to 80% in as little as 20 to 30 minutes, depending on battery size. This type of EVSE uses an off-board charger that transforms AC power to DC and bypasses the on-board charger. Generally, 208V three-phase or 480V service is required for this type of charging and may not be commonly available. In many cases, a new separate service will need to be installed by the local utility.

Power Source Proximity

One of the major cost variables of an EVSE installation is the immediate proximity of adequate power. A site assessment looks at the available space within the power panel. Dedicated circuits are required. In general, the closer the power source is to the potential site, the less expensive the installation will be.

Software Requirements

Basic EVSE

Different models of EVSE have different levels of networking capabilities. Basic models, sometimes called “dumb chargers,” communicate only with the vehicle as the “handshake” begins the charging session and ends when the vehicle’s charger completes the session or the charge is interrupted by the EVSE or uncoupling.

Smart EVSE

Smart EVSE are offered in Levels 1, 2, and Fast Chargers (Level 3). Commercial duty qualities are generally more expensive than basic chargers. They offer differing levels of communication with the user, site host, utility grid, and the Internet, depending on model and manufacturer. They also offer the option of collecting fees for the charging session and a high level of reporting capabilities.

Depending on model and manufacturer, smart chargers offer a high degree of information for the user, often by computer or smart phone. Commonly available features are: verification of the user by means of a radio-frequency identification (RFID) card, point of sale using credit cards, display of fee rates, rate of charging, cell phone or email notification of a completed session, plug-out notification, internet location of EVSE with rates, in-use status, and reservation capabilities. Reporting capabilities commonly include: date, location, electricity used for each charging session, monthly reports, and fee totals. The site host can also communicate with smart EVSE to establish rates, determine usage, verify user identity, trouble shoot errors, and gather kWh consumption data.

Depending on the business model being used by the manufacturer, smart EVSE usually involve on-going monthly or annual fees for the user, site host, or both.

Charging Station / System Providers

A variety of manufacturers currently sell and distribute EV charging stations and components throughout the District. Below is a brief description of several of the most prominent EV charging station providers:

- **Blink** - Blink provides commercial EV charging stations for public, commercial, and fleet installations. Two popular Blink products for EV charging in the commercial sector include the Blink Pedestal and Blink Wall Mount EV charging stations.
- **ChargePoint** – ChargePoint’s charging network contains over 20,300 charging stations worldwide. ChargePoint’s commercial charging stations provide the ability to manage charging operations through an advanced cloud service, monitor charging activity, and track energy usage.
- **NRG eVgo** – NRG eVgo’s goal is to create a comprehensive EV ecosystem. They provide commercial applications which include installation and servicing of charging stations at commercial and retail properties, as well as a wide variety of network charging plans.

- **ClipperCreek** – ClipperCreek is a leading manufacturer of EVSE's (Electric Vehicle Supply Equipment). ClipperCreek offers a wide variety of charging stations for use in many different settings.

PROJECT DESCRIPTION

The SCAQMD is developing a new Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6). The goal of the Protocol is to provide incentives through the generation of Rule 2202 credits to incentivize the workplace deployment of electric vehicle charging stations. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's AVR target.

Eligible projects include installation of new electric vehicle charging stations after the approval of the Protocol by the SCAQMD or installation of electric vehicle charging stations within one year prior to the approval of the Protocol by the SCAQMD. Charging stations installed in residential homes or multi-unit dwellings are not eligible projects under the current draft Protocol.

To be eligible to generate Rule 2202 credits, a Rule 2202(f)(6) application must be submitted to the Executive Officer for approval. The application shall include all monitoring, recordkeeping, and reporting requirements and emission reduction calculation methods that are to be used for the proposed project as provided in subdivision (h) of the proposed Protocol. A detailed copy of the proposed Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is included in Appendix A. This Protocol merely provides an additional alternative control strategy for compliance with Rule 2202 and does not change any of the existing requirements under Rule 2202.

CHAPTER 2 - ENVIRONMENTAL CHECKLIST

Introduction

General Information

Environmental Factors Potentially Affected

Determination

Environmental Checklist and Discussion

INTRODUCTION

The environmental checklist provides a standard evaluation tool to identify a project's potential adverse environmental impacts. This checklist identifies and evaluates potential adverse environmental impacts that may be created by the proposed project.

GENERAL INFORMATION

Project Title:	Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects
Lead Agency Name:	South Coast Air Quality Management District
Lead Agency Address:	21865 Copley Drive Diamond Bar, CA 91765
CEQA Contact Person:	Mr. Jeff Inabinet (909) 396-2453
Protocol Contact Person:	Ms. Lori Berard (909) 396-2436
Project Sponsor's Name:	South Coast Air Quality Management District
Project Sponsor's Address:	21865 Copley Drive Diamond Bar, CA 91765
General Plan Designation:	Not applicable
Zoning:	Not applicable
Description of Project:	The SCAQMD is developing a new Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the proposed Protocol is to provide incentives for the deployment of workplace electric vehicle charging stations through the generation of Rule 2202 credits. Electric vehicle charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not used by that employer to comply with Rule 2202's Average Vehicle Ridership (AVR) target.
Surrounding Land Uses and Setting:	Not applicable
Other Public Agencies Whose Approval is Required:	Not applicable

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED

The following environmental impact areas have been assessed to determine their potential to be affected by the proposed project. As indicated by the checklist on the following pages, environmental topics marked with a "✓" may be adversely affected by the proposed project. An explanation relative to the determination of impacts can be found following the checklist for each area.

- | | | |
|--|--|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Geology and Soils | <input type="checkbox"/> Population and Housing |
| <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Hazards and Hazardous Materials | <input type="checkbox"/> Public Services |
| <input checked="" type="checkbox"/> Air Quality and Greenhouse Gas Emissions | <input type="checkbox"/> Hydrology and Water Quality | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Land Use and Planning | <input type="checkbox"/> Solid/Hazardous Waste |
| <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Transportation/Traffic |
| <input checked="" type="checkbox"/> Energy | <input type="checkbox"/> Noise | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION

On the basis of this initial evaluation:

- I find the proposed project, in accordance with those findings made pursuant to CEQA Guideline §15252, COULD NOT have a significant effect on the environment, and that an ENVIRONMENTAL ASSESSMENT with no significant impacts has been prepared.
- I find that although the proposed project could have a significant effect on the environment, there will NOT be significant effects in this case because revisions in the project have been made by or agreed to by the project proponent. An ENVIRONMENTAL ASSESSMENT with no significant impacts will be prepared.
- I find that the proposed project MAY have a significant effect(s) on the environment, and an ENVIRONMENTAL ASSESSMENT will be prepared.
- I find that the proposed project MAY have a "potentially significant impact" on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL ASSESSMENT is required, but it must analyze only the effects that remain to be addressed.
- I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier ENVIRONMENTAL ASSESSMENT pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier ENVIRONMENTAL ASSESSMENT, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Date: January 23, 2015

Signature: _____

Michael Krause
Program Supervisor

ENVIRONMENTAL CHECKLIST AND DISCUSSION

As discussed in Chapter 1, the main focus of the proposed project is to develop a Protocol to establish procedures for evaluating, approving and monitoring future electric vehicle charging station projects submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6) as amended in June 2014 by the SCAQMD Governing Board. The goal of the Protocol is to provide incentives for the deployment of workplace electric vehicle charging stations through the generation of Rule 2202 credits.

The objectives of the Protocol are to:

- incentivize the deployment of electric vehicle charging stations at workplaces;
- establish procedures for and provide consistency in the evaluation, approval and monitoring of future electric vehicle charging station projects generating emission reductions submitted under the Rule 2202 AQIP solicitation or pursuant to Rule 2202(f)(6);
- provide guidance to applicants, charging station owners, and other companies proposing to implement an electric vehicle charging station project for Rule 2202 credit by identifying the monitoring, recordkeeping, and reporting requirements prior to project implementation.

In order to ensure that any potential significant adverse environmental impacts are identified and evaluated and that feasible methods to reduce or avoid any potential significant adverse environmental impacts associated with the proposed project are identified and evaluated, an environmental analysis was conducted on a known proposed project to install and upgrade EV charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. The proposed project includes installing 104 new charging stations, replacing six existing charging stations, installing three new electrical transformers and two small concrete pads, and minor drilling and trenching activities. The monitoring of the future charging stations is expected to be conducted by the existing SCAQMD team currently enforcing the requirements of Rule 2202. Due to the large size of the proposed SCAQMD infrastructure expansion, this known project was used as an example for a “worst case” impact scenario. It is expected that the installation of electric charging stations will generate secondary air quality impacts during construction and energy impacts from operation. Employers who choose to develop new EV infrastructure as a result of the proposed Protocol are expected to install fewer EV charging stations than the proposed SCAQMD project being evaluated as a surrogate. Therefore, any potential adverse impacts from the construction or operation of new EV infrastructure projects developed as a result of the proposed Protocol are expected to be less than the potential adverse impacts evaluated for the surrogate SCAQMD infrastructure expansion project.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
I. AESTHETICS. Would the project:				
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on aesthetics will be considered significant if:

- The project will block views from a scenic highway or corridor.
- The project will adversely affect the visual continuity of the surrounding area.
- The impacts on light and glare will be considered significant if the project adds lighting which would add glare to residential areas or sensitive receptors.

Discussion

I. a), b), c) & d) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Therefore, implementation of the proposed Protocol would only require limited construction activities such as trenching for electrical conduit, delivery and placement of prefabricated EV charging equipment, and minor paving/concrete activities.

Implementation of the proposed Protocol would not require the construction of new buildings or other major structures that would obstruct scenic resources or degrade the existing visual character of a site, including but not limited to, trees, rock outcroppings, or historic buildings. Further, the proposed Protocol would not involve the demolition of any existing buildings or facilities, require the acquisition of any new land or the surrendering of existing land, or the modification of any existing land use designations or zoning ordinances. Thus, the proposed project is not expected to degrade the visual character of any site or its surroundings, affect any scenic vista, or damage scenic resources. Since the proposed project would primarily affect

existing parking lots/structures and does not require the addition of lighting, it is not expected to create any new source of substantial light or glare.

Based upon these considerations, significant adverse aesthetics impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse aesthetics impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
II. AGRICULTURE AND FORESTRY RESOURCES. Would the project:				
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland mapping and Monitoring Program of the California Resources Agency, to non- agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined by Public Resources Code §4526), or timberland zoned Timberland Production (as defined by Government Code §51104 (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Project-related impacts on agriculture and forestry resources will be considered significant if any of the following conditions are met:

- The proposed project conflicts with existing zoning or agricultural use or Williamson Act contracts.
- The proposed project will convert prime farmland, unique farmland or farmland of statewide importance as shown on the maps prepared pursuant to the farmland mapping and monitoring program of the California Resources Agency, to non-agricultural use.
- The proposed project conflicts with existing zoning for, or causes rezoning of, forest land (as defined in Public Resources Code §12220(g)), timberland (as defined in Public Resources

Code §4526), or timberland zoned Timberland Production (as defined by Government Code § 51104 (g)).

- The proposed project would involve changes in the existing environment, which due to their location or nature, could result in conversion of farmland to non-agricultural use or conversion of forest land to non-forest use.

Discussion

II. a), b), c) & d) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Implementation of the proposed Protocol would only require limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The facilities that will install new EV charging infrastructure as a result of the implementation of the proposed Protocol are expected to be located within urbanized areas that are typically designated as commercial. Therefore, adoption of the proposed Protocol would not result in any new construction of buildings or other structures that would convert farmland to non-agricultural use or conflict with zoning for agricultural use or a Williamson Act contract. The proposed Protocol would not require converting farmland to non-agricultural uses because the potentially affected facilities are expected to be already completely developed. For the same reasons, the proposed Protocol would not result in the loss of forest land or conversion of forest land to non-forest use.

Based upon these considerations, significant adverse agricultural and forestry resource impacts are not anticipated and will not be further analyzed in this final EA. Since no significant agriculture and forestry resource impacts were identified, no mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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III. AIR QUALITY AND GREENHOUSE GAS EMISSIONS.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|-------------------------------------|-------------------------------------|
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Violate any air quality standard or contribute to an existing or projected air quality violation? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions that exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Air Quality Significance Criteria

To determine whether or not air quality impacts from adopting and implementing the proposed Protocol are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded.

To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO₂/year threshold for industrial sources.

**TABLE 2-1
SCAQMD Air Quality Significance Thresholds**

Mass Daily Thresholds ^a		
Pollutant	Construction ^b	Operation ^c
NO_x	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM₁₀	150 lbs/day	150 lbs/day
PM_{2.5}	55 lbs/day	55 lbs/day
SO_x	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs), Odor, and GHG Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk \geq 10 in 1 million Cancer Burden > 0.5 excess cancer cases (in areas \geq 1 in 1 million) Chronic & Acute Hazard Index \geq 1.0 (project increment)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
GHG	10,000 MT/yr CO ₂ eq for industrial facilities	
Ambient Air Quality Standards for Criteria Pollutants ^d		
NO₂ 1-hour average annual arithmetic mean	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.18 ppm (state) 0.03 ppm (state) and 0.0534 ppm (federal)	
PM₁₀ 24-hour average annual average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation) 1.0 $\mu\text{g}/\text{m}^3$	
PM_{2.5} 24-hour average	10.4 $\mu\text{g}/\text{m}^3$ (construction) ^e & 2.5 $\mu\text{g}/\text{m}^3$ (operation)	
SO₂ 1-hour average 24-hour average	0.25 ppm (state) & 0.075 ppm (federal – 99 th percentile) 0.04 ppm (state)	
Sulfate 24-hour average	25 $\mu\text{g}/\text{m}^3$ (state)	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) and 35 ppm (federal) 9.0 ppm (state/federal)	
Lead 30-day Average Rolling 3-month average Quarterly average	1.5 $\mu\text{g}/\text{m}^3$ (state) 0.15 $\mu\text{g}/\text{m}^3$ (federal) 1.5 $\mu\text{g}/\text{m}^3$ (federal)	

^a Source: SCAQMD CEQA Handbook (SCAQMD, 1993)

^b Construction thresholds apply to both the South Coast Air Basin and Coachella Valley (Salton Sea and Mojave Desert Air Basins).

^c For Coachella Valley, the mass daily thresholds for operation are the same as the construction thresholds.

^d Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.

^e Ambient air quality threshold based on SCAQMD Rule 403.

KEY: lbs/day = pounds per day ppm = parts per million $\mu\text{g}/\text{m}^3$ = microgram per cubic meter \geq = greater than or equal to
 MT/yr CO₂eq = metric tons per year of CO₂ equivalents > = greater than

III. a), b) and f) Attainment of the state and federal ambient air quality standards protects sensitive receptors and the public in general from the adverse effects of criteria pollutants which are known to have adverse human health effects. Incentivizing the development of EV charging infrastructure contributes to carrying out the goals of the 2012 AQMP, specifically, the goals of control measure ONRD-01, Accelerated Penetration of Partial Zero-Emission and Zero Emission Vehicles to reduce NO_x and PM_{2.5} emissions. Further, reducing emissions from traditional gasoline-powered vehicles by introducing new EVs helps contribute towards attaining and maintaining the state and federal ozone and PM_{2.5} ambient air quality standards. It is expected that the proposed Protocol would improve air quality and visibility over time and, would do likewise for any community within one-quarter mile of affected facilities.

Thus, because the proposed Protocol implements a portion of this control measure in the 2012 AQMP which results in achieving emission reductions, the proposed project does not obstruct implementation of the applicable AQMP.

Construction Impacts

Construction-related emissions can be distinguished as either onsite or offsite. Onsite emissions generated during construction principally consist of exhaust emissions (NO_x, SO_x, CO, VOC, and PM₁₀) from the operation of heavy-duty construction equipment, fugitive dust (as PM₁₀) from disturbed soil, and VOC emissions from asphaltic paving and painting. Offsite emissions during the construction phase normally consist of exhaust emissions and entrained paved road dust (as PM₁₀) from worker commute trips, material delivery trips, and haul truck material removal trips to and from the construction site.

Adoption of the proposed Protocol would incentivize the development of EV charging infrastructure at worksites located throughout the SCAQMD jurisdiction. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities.

To evaluate any potential environmental impacts from future electric vehicle charging station projects, an environmental analysis was conducted on a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for impacts from potential future projects deployed as a result of the new Protocol. Due to the large size of the proposed SCAQMD infrastructure expansion project, this known project was used as an example for a “worst case” impact scenario. Based on information obtained from EV charging systems vendors, the charging equipment would most likely consist of pre-fabricated equipment that would be delivered to the facility. Therefore, the air quality construction impacts analyzed include:

- Delivery of the pre-fabricated EV charging equipment to the facility;
- Placement of 104 new pre-fabricated chargers at the facility;
- Replacement of six existing charging stations;
- Delivery and installation of three new electrical transformers;

- Supplying concrete, compacting and surfacing of two small concrete pads;
- Conduct minor drilling activities associated with the laying of electrical conduit at the parking structure location;
- Conduct minor trenching activities associated with the laying of electrical conduit at CC-8 location;
- Delivery of workers to the work site.

Figure 2-1 depicts the locations of the various EV infrastructure installation locations at the SCAQMD Headquarters.



Figure 2-1
EV Charging Infrastructure Installation Locations at the SCAQMD

Table 2-2 summarizes the peak construction emissions due to the installation of EV charging infrastructure at the SCAQMD as part of the surrogate project. The construction phases analyzed included delivery and placement of new EV charging equipment and electrical transformers, minor drilling and trenching activities associated with installation of electrical conduit, and compaction and resurfacing of several small areas. A detailed construction emissions spreadsheet including construction phases, emission estimates, and assumptions used in the calculations is provided in Appendix B. Construction air quality impacts have been determined to not exceed any applicable significance thresholds. Therefore, construction air quality impacts are concluded to be less than significant.

**Table 2-2
Peak Construction Emissions Due to Installation of EV Charging Infrastructure at
SCAQMD**

PEAK CONSTRUCTION	VOC	CO	NO_x	SO_x	PM₁₀	PM_{2.5}
	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day	lbs/day
Total Project Emissions	4.38	22.69	35.12	0.07	1.76	1.66
SCAQMD CEQA SIGNIFICANCE THRESHOLD	75	550	100	150	150	55
SIGNIFICANT?	NO	NO	NO	NO	NO	NO

Employers who choose to develop new EV infrastructure as a result of the proposed Protocol are expected to install fewer EV charging stations than the proposed SCAQMD infrastructure expansion project being evaluated as a surrogate since the SCAQMD is an established alternative fueling hub for vehicles. Additionally, it is unlikely that multiple projects anywhere near this size would be occurring simultaneously. Therefore, any potential adverse air quality impacts from the construction or operation of new EV infrastructure projects as a result of the proposed Protocol are expected to be less than the potential adverse impacts evaluated for the surrogate project.

As a result, according to the above analysis of potential construction impacts, there would be no significant adverse construction air quality impacts resulting from the proposed project for criteria pollutants.

Operational Impacts- Criteria Pollutants

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already established workplaces with existing electrical service.

The SCAQMD met with representatives from the power suppliers in the Basin, Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP), to discuss any potential adverse impacts on the current electrical grid, the need for additional power generation, or any reliability concerns that may be caused by the adoption of the proposed Protocol⁴. As discussed in further detail in the Energy Section VI of this report, both SCE and LADWP have forecasted potential load impacts from increased EV charging in the future. SCE and LADWP currently do not have the need to build any new electric generation facilities or

⁴ Meeting with SCE, LADWP, and SCAQMD at SCAQMD Headquarters, December 12, 2014.

alter the transmission system due to projected EV charging demands. Additionally, based on the most recent Integrated Resource Plan (IRP)⁵ issued last month, LADWP has determined that the doubling of electric vehicles will not require additional generation or transmission beyond currently planned upgrades. Therefore, there will be no additional electrical generation needed as a result of the adoption of the proposed Protocol, and therefore no additional emissions generated. Any future increase of power generation at existing facilities that would generate additional emissions would be evaluated during the permitting of those facilities.

Therefore, the implementation of the proposed Protocol is not expected to result in any significant adverse operational air quality impacts.

Operational Impacts- Toxic Air Contaminants

In assessing potential impacts from the adoption of proposed rule and amendments, SCAQMD staff not only evaluates the potential air quality benefits, but also determines potential health risks associated with implementation of the proposed amendments.

As stated previously, adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. An increased amount of EVs and associated charging infrastructure is not expected to generate an increase in any toxic emissions because the operation of EV charging stations does not generate any toxic emissions. As a result, there will be no increase in toxic air contaminant emissions due to the proposed Protocol.

III. c) As Lead Agency, the SCAQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant⁶.

This approach was upheld by the Court in *Citizens for Responsible Equitable Environmental Development v. City of Chula Vista* (2011) 197 Cal. App. 4th 327, 334. The Court determined that where it can be found that a project did not exceed the SCAQMD's established air quality significance thresholds, the City of Chula Vista properly concluded that the project would not cause a significant environmental effect, nor result in a cumulatively considerable increase in these pollutants. The court found this determination to be consistent with CEQA Guidelines §15064.7, stating, "The lead agency may rely on a threshold of significance standard to determine whether a project will cause a significant environmental effect." The court found that, "Although the project will contribute additional air pollutants to an existing nonattainment area, these increases are below the significance criteria..." "Thus, we conclude that no fair argument exists that the Project will cause a significant unavoidable cumulative contribution to an air quality impact." As in *Chula Vista*, here the District has demonstrated, when using accurate and appropriate data and assumptions, that the project will not exceed the established SCAQMD

⁵ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.

⁶ SCAQMD Cumulative Impacts Working Group White Paper on Potential Control Strategies to Address Cumulative Impacts From Air Pollution, August 2003, Appendix D, Cumulative Impact Analysis Requirements Pursuant to CEQA, at D-3, <http://www.aqmd.gov/docs/default-source/Agendas/Environmental-Justice/cumulative-impacts-working-group/cumulative-impacts-white-paper-appendix.pdf?sfvrsn=4>.

significance thresholds. See also, *Rialto Citizens for Responsible Growth v. City of Rialto* (2012) 208 Cal. App. 4th 899. Here again the court upheld the SCAQMD's approach to utilizing the established air quality significance thresholds to determine whether the impacts of a project would be cumulatively considerable. Thus, it may be concluded that the Project will not cause a significant unavoidable cumulative contribution to an air quality impact.

Based on the foregoing analysis, project-specific air quality impacts from implementing the proposed project would not exceed air quality significance thresholds (Table 2-1); therefore, based on the above discussion, cumulative impacts are not expected to be significant for air quality. Therefore, potential adverse impacts from the proposed project would not be "cumulatively considerable" as defined by CEQA Guidelines §15064(h)(1) for air quality impacts. Per CEQA Guidelines §15064(h)(4), the mere existing of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project's incremental effects are cumulative considerable.

III. d) Affected facilities are not expected to increase exposure by sensitive receptors to substantial pollutant concentrations from the implementation of the proposed Protocol for the following reasons: 1) affected facilities are primarily located in existing commercial areas; 2) EV charging equipment does not generate any toxic emissions; and 3) there will be no additional electrical generation facilities needed as a result of the adoption of the proposed Protocol (note: there will be additional need for power, but the demand, according to the power generators, can be met with existing systems). Therefore, significant adverse air quality impacts to sensitive receptors are not expected from implementing the proposed Protocol.

III. e) Historically, the SCAQMD has enforced odor nuisance complaints through SCAQMD Rule 402 - Nuisance. The proposed Protocol is not expected to create objectionable odors affecting a substantial number of people for the following reasons: 1) typically no odors are associated with operation of EV charging infrastructure; 2) a minimal amount of construction activities are expected to be necessary to install new EV charging infrastructure at commercial work sites; and, 3) installation of new EV charging equipment will incentivize the use of EVs, therefore, replacing older, higher emitting gasoline-powered vehicles that have odor potential. Therefore, no significant odor impacts are expected to result from implementing the proposed Protocol.

III. g) & h) Changes in global climate patterns have been associated with global warming, an average increase in the temperature of the atmosphere near the Earth's surface, recently attributed to accumulation of GHG emissions in the atmosphere. GHGs trap heat in the atmosphere, which in turn heats the surface of the Earth. Some GHGs occur naturally and are emitted to the atmosphere through natural processes, while others are created and emitted solely through human activities. The emission of GHGs through the combustion of fossil fuels (i.e., fuels containing carbon) in conjunction with other human activities, appears to be closely associated with global warming.⁷ State law defines GHG to include the following: carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), hydrofluorocarbons (HFCs),

⁷ Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor and H.L. Miller (eds.). 2007. Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change, 2007. Cambridge University Press.
http://www.ipcc.ch/publications_and_data/ar4/wg1/en/contents.html

perfluorocarbons (PFCs), and sulfur hexafluoride (SF6) (HSC §38505(g)). The most common GHG that results from human activity is CO₂, followed by CH₄ and N₂O.

GHGs and other global warming pollutants are often perceived as solely global in their impacts because increasing emissions anywhere in the world contributes to climate change anywhere in the world. However, a study conducted on the health impacts of CO₂ “domes” that form over urban areas shows they can cause increases in local temperatures and local criteria pollutants, which have adverse health effects.⁸

The analysis of GHGs is a different analysis than the analysis of criteria pollutants for the following reasons. For criteria pollutants, the significance thresholds are based on daily emissions because attainment or non-attainment is primarily based on daily exceedances of applicable ambient air quality standards. Further, several ambient air quality standards are based on relatively short-term exposure effects on human health (e.g., one-hour and eight-hour standards). Since the half-life of CO₂ is approximately 100 years, for example, the effects of GHGs occur over a longer term which means they affect the global climate over a relatively long time frame. As a result, the SCAQMD’s current position is to evaluate the effects of GHGs over a longer timeframe than a single day (e.g., annual emissions). GHG emissions are typically considered to be cumulative impacts because they contribute to global climate effects.

On December 5, 2008, the SCAQMD adopted an interim CEQA GHG Significance Threshold for projects where SCAQMD is the lead agency (SCAQMD, 2008). This interim threshold is set at 10,000 metric tons of CO₂ equivalent emissions (MTCO₂eq) per year. Projects with incremental increases below this threshold will not be deemed to be cumulatively considerable.

The Program EIR for the 2012 AQMP concluded that implementing the control measures in the 2012 AQMP would provide a comprehensive ongoing regulatory program that would reduce overall GHGs emissions in the District.

Construction emission calculations were conducted for a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. Due to the proposed large project size, this known infrastructure expansion project was used as an example for a “worst case” impact scenario. Table 2-4 provides the total construction CO₂E emissions that could occur from the installation of the proposed EV charging infrastructure at SCAQMD Headquarters. Detailed GHG calculations can be found in Appendix B. As shown in Table 2-4, GHG emissions generated by construction activities are expected to be relatively small, much less than 10,000 metric tons per year (SCAQMD’s GHG significance threshold), and, therefore, not significant.

⁸ Jacobsen, Mark Z. “Enhancement of Local Air Pollution by Urban CO₂ Domes,” Environmental Science and Technology, as describe in Stanford University press release on March 16, 2010 available at: <http://news.stanford.edu/news/2010/march/urban-carbon-domes-031610.html>.

**Table 2-3
Overall CO2 Equivalent (eq) Increases Due to Construction Activities for Surrogate Project (metric tons/year) ¹**

	CO2	CH4	CO2eq
Annual CO2eq Emission Increases Due to:	lb/day	lb/day	MT/year
Installing New EV Infrastructure at SCAQMD Headquarters	6,568	0.36	6

¹ 1 metric ton = 2,205 pounds

Installation of new EV charging equipment will incentivize the use of EVs, therefore, replacing older, higher emitting gasoline-powered vehicles that generate GHG emissions. A lower amount of fuel being burned as a result of the operation of EV charging stations will generate less GHG emissions than the existing setting. Additionally, there will be no additional electrical generation facilities needed as a result of the adoption of the proposed Protocol. Therefore, no additional GHG emissions associated with the operation of new electrical generation facilities will result.

Since the proposed project is not expected to generate significant construction-related CO2 emissions, and the operational phase of the proposed project is not expected to generate any additional GHG emissions, cumulative GHG adverse impacts from the proposed Protocol are not considered significant or cumulatively considerable.

Conclusion

Based on the preceding evaluation of potential air quality impacts, SCAQMD staff has concluded that the proposed Protocol does not have the potential to generate significant adverse air quality impacts. Since no significant adverse air quality and greenhouse gases impacts were identified, no mitigation measures are necessary or required.

Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
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IV. BIOLOGICAL RESOURCES.

Would the project:

- | | | | | |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
|--|--------------------------|--------------------------|--------------------------|-------------------------------------|

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by §404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Conflicting with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on biological resources will be considered significant if any of the following criteria apply:

- The project results in a loss of plant communities or animal habitat considered to be rare, threatened or endangered by federal, state or local agencies.
- The project interferes substantially with the movement of any resident or migratory wildlife species.

- The project adversely affects aquatic communities through construction or operation of the project.

Discussion

IV. a), b), c), & d) The proposed Protocol would not require any new development or require major modifications to buildings or other structures. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The installation of new EV charging equipment is expected to be located at existing facilities in parking lots that are already paved. Any new construction is expected to be minor in nature and in a limited area. In addition, the biological resources have already been disturbed or removed at the existing facilities. As a result, the proposed Protocol would not directly or indirectly affect any new or existing species identified as a candidate, sensitive or special status species, riparian habitat, federally protected wetlands, or migratory corridors. For this same reason, the proposed Protocol is not expected to adversely affect special status plants, animals, or natural communities.

IV. e) & f) The proposed Protocol would not conflict with local policies or ordinances protecting biological resources or local, regional, or state conservation plans because it would not cause new development. Additionally, the proposed Protocol would not conflict with any Habitat Conservation Plan, Natural Community Conservation Plan, or any other relevant habitat conservation plan for the same reason identified in Item IV. a), b), c), and d) above. Likewise, the proposed Protocol would not in any way impact wildlife or wildlife habitat.

Based upon these considerations, significant adverse biological resources impacts are not anticipated and will not be further analyzed in this final EA. Since no significant adverse biological resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
V. CULTURAL RESOURCES. Would the project:				
a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource as defined in §15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource, site, or feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside formal cemeteries?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to cultural resources will be considered significant if:

- The project results in the disturbance of a significant prehistoric or historic archaeological site or a property of historic or cultural significance to a community or ethnic or social group.
- Unique paleontological resources are present that could be disturbed by construction of the proposed project.
- The project would disturb human remains.

Discussion

V. a), b), c), & d) The proposed Protocol does not require construction of new facilities, increase the floor space of existing facilities, or any other construction activities that would require disturbing native soil that may contain cultural resources. However, adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. These limited construction activities are expected to occur in previously disturbed soils, seeing that the activities will occur at already existing facilities.

Since no construction-related activities requiring native soil disturbance would be associated with the implementation of the proposed Protocol, no impacts to historical or cultural resources are anticipated to occur. Further, the proposed Protocol is not expected to require any major physical changes to the environment, which may disturb paleontological or archaeological resources or disturb human remains interred outside of formal cemeteries.

Based upon these considerations, significant adverse cultural resources impacts are not expected from implementing the proposed Protocol and will not be further assessed in this final EA. Since no significant cultural resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VI. ENERGY. Would the project:				
a) Conflict with adopted energy conservation plans?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Result in the need for new or substantially altered power or natural gas utility systems?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Create any significant effects on local or regional energy supplies and on requirements for additional energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
d) Create any significant effects on peak and base period demands for electricity and other forms of energy?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) Comply with existing energy standards?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

Significance Criteria

Impacts to energy and mineral resources will be considered significant if any of the following criteria are met:

- The project conflicts with adopted energy conservation plans or standards.
- The project results in substantial depletion of existing energy resource supplies.
- An increase in demand for utilities impacts the current capacities of the electric and natural gas utilities.
- The project uses non-renewable resources in a wasteful and/or inefficient manner.

Discussion

VI. a) & e) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public, including private parking lots and structures accessible only to employees. All newly installed EV charging equipment as a result of the adoption of the proposed Protocol will be expected to comply with existing energy standards. Newly installed EV charging equipment is expected to be energy efficient and, as discussed below, more reliant on renewable sources of electricity generation, therefore the proposed project is not expected to use energy in a wasteful manner.

Since the proposed Protocol would affect facilities primarily located in commercial areas, it will not conflict with adopted energy conservation plans because existing facilities where new EV charging infrastructure would be installed are expected to continue implementing any existing energy conservation plans. Accordingly these impact issues will not be further analyzed in the final EA.

VI. b), c) & d) Electricity: Power demand could potentially increase as a result of the implementation of the proposed Protocol. Thus, the SCAQMD staff met with representatives⁹ from Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) to discuss any potential adverse impacts on the current electrical grid or any reliability concerns that may be caused by the adoption of the proposed protocol. In the SCE’s “Charge Ready Application” (October 30, 2014) prepared for the California Public Utilities Commission,

⁹ December 12, 2014 meeting at the SCAQMD Headquarters

SCE “will seek to significantly increase the availability of long dwell-time EV charging infrastructure,” including workplaces and fleet parking where vehicles are usually parked for at least four hours. The SCE Charge Ready program anticipates workplaces “would help reduce range anxiety, increase electric vehicle miles driven, increase access to charging in multi-unit dwellings, reduce air pollution, and may, in the future, provide a way to utilize excess renewable energy generation during the day.” The application also states the program “will provide supporting infrastructure for up to 30,000 charging stations in SCE’s service area,” and later in the application “provides more reliable electric service.”

According to the representatives, both SCE and LADWP have forecasted potential load impacts from increased EV charging in the future. SCE and LADWP currently do not have the need to build any new electric generation facilities or alter the transmission system due to projected EV charging demands.

To support that conclusion, SCE and LADWP participated in the development of the 2014 *California Transportation Electrification Assessment (TEA)* discussed in detail in later paragraphs. The LADWP prepares a Power Integrated Resource Plan (IRP) document that serves as a comprehensive 20 year roadmap that guides the LADWP Power System in its efforts to supply reliable electricity in an environmentally responsible and cost effective manner. More specifically, the IRP demonstrates support for increased levels of renewable energy, and an expanded Power System Reliability Program to incorporate electric distribution, generation, transmission, and substations. Finally, the IRP includes numerous updates including a new load forecast. According to the LADWP, the overriding purpose is to provide a framework to assure future energy needs of LADWP customers are met in a manner that balances the following key objectives:

- Superior reliability and supply of electric service
- Competitive electric rates consistent with sound business principles
- Responsible environmental stewardship exceeding all regulatory obligations

Based on LADWP’s most recent 2014 IRP¹⁰ issued last month, it has been determined that the doubling of electric vehicles will not require additional generation or transmission beyond currently planned upgrades. Therefore, there will be no substantial depletion of energy resources nor will significant amounts of additional energy be needed when compared to existing and future projected supplies. Additionally, the proposed Protocol will not change the current electricity distribution system as well.

LADWP’s IRP evaluated increased future electrification from a variety of potential sources throughout Southern California, including electric vehicle charging. The electrification cases in this 2014 IRP considers a base, medium, and high case. The base case is forecasted using the CEC’s 2013 IEPR, the medium case is 150 percent of the base case and high case is 200 percent of the base case. The IRP determined that increased electrification of the transportation sector would provide an opportunity for load shifting and absorbing potential over-generation from renewable resources by promoting electric vehicle charging during times of over-generation.

¹⁰ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.
https://www.ladwp.com/ladwp/faces/wcnav_externalId/a-p-doc?_adf.ctrl-state=1c41nu408t_4&_afLoop=116645643013076

Near term actions outlined in the IRP included implementing the Power System Reliability Program (PSRP) to replace aging infrastructure components and promoting high levels of electrification in the transportation sector. The PSRP also includes periodic assessments of the program's effectiveness and identifies modifications to provide continuous improvement and to serve as the backbone for transportation electrification and integration of renewables.

Use of the advanced technology (e.g., Level 2 chargers) as described in Chapter 1 of this Environmental Assessment enables the power producers to better track the energy usage from the charging of EVs and plan accordingly in their forecasts to meet the electricity demand and maintain power reliability.

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the California Energy Commission (CEC) to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (*Public Resources Code § 25301[a]*). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the *Integrated Energy Policy Report (IEPR)*. Preparation of the IEPR involves close collaboration with federal, state, and local agencies, and a wide variety of stakeholders in an extensive public process to identify critical energy issues and develop strategies to address those issues.

According to the CEC's 2014 Draft IEPR¹¹, the Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (SONGS). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's (SWRCB) once-through cooling policy, the retirement of SONGS complicated the situation. California ISO studies had previously revealed the extent to which the Los Angeles Basin and San Diego region were vulnerable to low voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 IEPR, after a collaborative process with other energy agencies, utilities, and air districts. If the resource development outlined in the preliminary plan continues as detailed (preferred resources, conventional generation, and transmission), reliability in Southern California would likely be assured without the need for the development of new energy sources. However, tight resource margins have led energy agencies and the California Air Resources Board (CARB) to develop a contingency plan that seeks to assure reliability for the Southern California region. In particular, tracking preferred resource development to continue in California, power flow modeling studies to establish local capacity requirements, and sharing such data among the energy agencies. CEC "staff will continue to develop an annual accounting tool for tracking data and for compiling data on substation loads. The tool will be used to develop projections of expected resources versus local capacity requirements. Mitigation measure development needs to be agreed to and made ready for implementation. In particular, the generation mitigation options will require close coordination among the energy agencies and air districts legally charged with issuing local

¹¹ California Energy Commission, 2014 Draft Integrated Energy Policy Report Update, November 2014.

permits.”¹² Thus, the contingency plan is developed as an interagency effort, but if it becomes necessary to trigger mitigation measures, the implementation would occur through the authority and processes of the individual agencies.

Three core activities under development among the agencies are the following:

- Tracking all types of resource development;
- Development of contingency mitigation measures that can be triggered if resource expectations do not match requirements;
- Creation of an analytic process for the early detection of any projected shortfall of resources needed to meet local capacity requirements.

The energy agencies, utilities, and air districts staffs continue to refine the contingency plan that seeks to assure reliability for the Southern California region.

The *California Transportation Electrification Assessment (TEA) (Phase I - September 2014, Phase II – October 2014)*, prepared by ICF International with analytical support from Energy and Environmental Economics, Inc. (E3), updates and expands upon previous work on the grid impacts, costs, and private and societal benefits of increased transportation electrification. Utility work groups made up of a cross section of investor owned utilities and municipally owned utilities provided input and consultation for critical aspects of the study. In addition, feedback and comments were solicited and received from the CEC and CARB. The TEA has been split into two reports: Phase 1 and Phase 2. Phase 1 includes market sizing, forecasts and societal benefits, costing analysis of select transportation electrification technologies, a high level discussion of potential grid benefits from plug-in electric vehicles (PEVs), and identification of market gaps and barriers and potential solutions for PEV adoption. The costing analysis in Phase 1 is from a transportation electrification technology consumer perspective and takes into account operational benefits and fuels savings in addition to societal benefits from decreased petroleum consumption, GHGs, and criteria pollutant emissions. Phase 2 provides detailed modeling and quantification of the grid benefits from PEVs. Phase 2 focuses on the economic and cost effectiveness tests from a utility and overall ratepayer perspective including estimating increases in net revenue for the utilities from PEVs.

According to the *TEA*, with properly designed dynamic rates or managed charging, EV’s could “increase grid reliability under high renewable portfolio standards (RPS) scenarios by absorbing overgeneration and reducing morning and evening ramps”¹³. The installation of EV charging infrastructure at workplaces may increase energy usage during peak demand (shift from non-peak usage charging at night to peak usage charging during the day), however, this shift will take advantage of overgeneration from the increase in solar power generation, eliminating the need for additional electricity generation from natural-gas fired sources. Additionally, new EV infrastructure (Level 2 chargers only) will provide an increase in demand response which will mitigate any potential peak impacts.

¹² <http://www.energy.ca.gov/2014publications/CEC-100-2014-001/CEC-100-2014-001-D.pdf> (page 194)

¹³ ICF International, *California Transportation Electrification Assessment*, Phase II- Grid Impacts, October 23, 2014.

Similar to conclusions in the *TEA*, as stated in CEC's 2014 Draft IEPR Update, electric vehicles have the potential to benefit the grid by using their batteries to help manage electricity loads throughout the day, which is an increasing area of concern as renewable solar and wind energy continue to develop in California. To realize these opportunities, smart charging technology that incorporates the flexibility to communicate with customers and electric utilities becomes an essential component of electric vehicle operation⁶.

In addition, according to the U.S. Department of Energy's (DOE), *Evaluating Electric Vehicle Charging Impacts and Customer Charging Behaviors- Experiences from Six Smart Grid Investment Grant Projects*, the electric power industry expects a 400 percent growth in annual sales of plug-in electric vehicles by 2023, which may substantially increase electricity usage and peak demand in high adoption areas. Understanding customer charging patterns can help utilities anticipate future infrastructure changes that will be needed to handle large vehicle charging loads. Under the DOE's Smart Grid Investment Grant (SGIG) program, six utilities evaluated operations and customer charging behaviors for in-home and public electric vehicle charging stations:

- Burbank Water and Power (BWP)
- Duke Energy (Duke)
- Indianapolis Power & Light Company (IPL)
- Madison Gas and Electric (MGE)
- Progress Energy (now part of Duke Energy as a result of a merger in 2012)
- Sacramento Municipal Utility District (SMUD)

The utilities evaluated the technical performance of the charging systems, the potential grid impacts of charging during peak periods, and the potential need for distribution system upgrades and capacity additions to meet expected electricity demand growth from rising adoption of plug-in EVs. The six SGIG projects evaluated more than 270 public charging stations in parking lots and garages and more than 700 residential charging units in customers' homes. Due to the fact that there are relatively few plug-in EVs on the road today, the six SGIG projects focused on establishing the charging infrastructure with a relatively low number of stations and evaluated a small number of participating vehicles. As expected, project results showed negligible grid impacts from small-scale electric vehicle charging today, but gave utilities important insights into the demand growth and peak-period charging habits/demands they can anticipate if electric vehicle adoption rises as expected over the next decade.

As stated previously, the SCAQMD met with representatives from SCE and the LADWP to discuss any potential adverse impacts on the current electrical grid or any reliability concerns that may be caused by the adoption of the proposed protocol. Both SCE and LADWP have forecasted potential load impacts from increased EV charging. According to representatives, SCE and LADWP currently do not need to build any new generation facilities or alter the transmission system due to projected EV charging demands. Additionally, based on the most recent IRP¹⁴ issued last month, LADWP has determined that the doubling of electric vehicles

¹⁴ Los Angeles Department of Water and Power, 2014 Power Integrated Resource Plan, December 2014.

will not require additional generation or transmission beyond currently planned upgrades. Therefore, adoption of the Protocol is not expected to require the construction of additional electrical generation facilities, require additional electrical generation, or require alteration to the transmission system beyond currently planned upgrades.

Petroleum Fuels: Assembly Bill 118 (Núñez, Chapter 750, Statutes of 2007) created the Alternative and Renewable Fuel and Vehicle Technology Program (ARFVT Program). The statute, subsequently amended by Assembly Bill 109 (Núñez, Chapter 313, Statutes of 2008), authorizes the California Energy Commission to develop and deploy alternative and renewable fuels and advanced transportation technologies to help attain the state’s climate change policies. Assembly Bill 109 also requires the Energy Commission to prepare a report on the expected benefits of program investments in reducing petroleum fuel use and carbon and criteria emissions from California’s transportation sector. Thus, the California Transportation Electrification Assessment, prepared by ICF International for the CEC, focuses on a select number of benefits that can be quantified with a reasonable degree of certainty. The *Analysis of Benefits Associated with Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program*, prepared by National Renewable Energy Laboratory for the CEC, focuses on a select number of benefits that can be quantified with a reasonable degree of certainty.

According to the CEC’s *Analysis of Benefits Associated with Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program*¹⁵, there are expected benefits from EV infrastructure and usage of EV vehicles from a reduction in petroleum fuel estimated at 236 million gallons per year by 2025. Table 2-4 outlines the estimated reduction in petroleum fuels over the years from the operation of electric vehicle, infrastructure and fuel production.

TABLE 2-4
Estimated Petroleum Fuel Reductions

BENEFIT CATEGORY	PETROLEUM FUEL REDUCTIONS (million gallons)		
	Year 2015	Year 2020	Year 2025
Fueling Infrastructure	16.4	85.4	86.0
Vehicles	20.7	62.4	109.1
Fuel Production	3.5	41.0	41.0
TOTAL	40.7	188.8	236.1

Thus, the energy impact from petroleum fuels is anticipated to be a benefit in the reduction of fuel consumption due to the future installation of EV charging stations that could have been incentivized by the proposed Protocol.

¹⁵ CEC’s *Analysis of Benefits Associated With Projects and Technologies Supported by the Alternative and Renewable Fuel and Vehicle Technology Program* (2014) <http://www.energy.ca.gov/2014publications/CEC-600-2014-005/CEC-600-2014-005-D.pdf> (page 2)

Based on the above information, the proposed Protocol is not expected to generate significant adverse energy resources impacts and will not be discussed further in this final EA. Since no significant energy impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VII. GEOLOGY AND SOILS. Would the project:				
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
• Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on the geological environment will be considered significant if any of the following criteria apply:

- Topographic alterations would result in significant changes, disruptions, displacement, excavation, compaction or over covering of large amounts of soil.
- Unique geological resources (paleontological resources or unique outcrops) are present that could be disturbed by the construction of the proposed project.
- Exposure of people or structures to major geologic hazards such as earthquake surface rupture, ground shaking, liquefaction or landslides.
- Secondary seismic effects could occur which could damage facility structures, e.g., liquefaction.
- Other geological hazards exist which could adversely affect the facility, e.g., landslides, mudslides.

Discussion

VII. a) Southern California is an area of known seismic activity. Structures must be designed to comply with the Uniform Building Code Zone 4 requirements if they are located in a seismically active area. The local city or county is responsible for assuring that a proposed project complies with the Uniform Building Code as part of the issuance of the building permits and can conduct inspections to ensure compliance. The Uniform Building Code is considered to be a standard safeguard against major structural failures and loss of life. The goal of the code is to provide structures that will: 1) resist minor earthquakes without damage; 2) resist moderate earthquakes without structural damage but with some non-structural damage; and 3) resist major earthquakes without collapse but with some structural and non-structural damage.

The Uniform Building Code bases seismic design on minimum lateral seismic forces (“ground shaking”). The Uniform Building Code requirements operate on the principle that providing appropriate foundations, among other aspects, helps to protect buildings from failure during earthquakes. The basic formulas used for the Uniform Building Code seismic design require determination of the seismic zone and site coefficient, which represent the foundation conditions at the site. Accordingly, buildings and equipment at existing facilities choosing to install EV charging infrastructure are likely to conform with the Uniform Building Code and all other applicable state codes in effect at the time they were constructed.

New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. No new buildings or structures are expected to be constructed in response to the proposed Protocol and new EV charging stations are expected to be installed at existing vehicle locations, so no change in geological existing setting is expected. In addition, the proposed Protocol is not expected to affect a facility’s ability to continue to comply with any applicable Uniform Building Code requirements, as EV charging stations have been installed and operated safely for years throughout southern California, where seismic geological conditions exist. Consequently, the proposed Protocol is not expected to expose persons or property to new geological hazards such as earthquakes, landslides, mudslides, ground failure, or other natural hazards. As a result, substantial exposure

of people or structure to the risk of loss, injury, or death involving seismic-related activities is not anticipated and will not be further analyzed in this final EA.

VII. b), c), d) & e) Since the proposed Protocol would affect primarily existing facilities and would not be the cause of any new construction, it is expected that the soil types present at the affected facilities that are susceptible to expansion or liquefaction would be considered part of the existing setting. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. New subsidence impacts are not anticipated since no major excavation, grading, or fill activities will occur at affected facilities. Further, the proposed Protocol does not involve the removal of underground products (e.g., water, crude oil, et cetera) that could produce new, or make worse existing subsidence effects. Additionally, the affected areas are not envisioned to be prone to new risks from landslides or have unique geologic features, since the affected facilities are located in commercial areas where such features have already been altered or removed. Finally, since adoption of the proposed Protocol would be expected to affect operations at primarily existing facilities, the proposed Protocol is not expected to alter or make worse any existing potential for subsidence, liquefaction, etc.

Based on the above discussion, the proposed Protocol is not expected to have an adverse impact on geology or soils. Since no significant adverse impacts are anticipated, this environmental topic will not be further analyzed in the final EA. No mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
VIII. HAZARDS AND HAZARDOUS MATERIALS. Would the project:				
a) Create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
c) Emit hazardous emissions, or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or a private airstrip, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Significantly increased fire hazard in areas with flammable materials?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts associated with hazards will be considered significant if any of the following occur:

- Non-compliance with any applicable design code or regulation.
- Non-conformance to National Fire Protection Association standards.
- Non-conformance to regulations or generally accepted industry practices related to operating policy and procedures concerning the design, construction, security, leak detection, spill containment or fire protection.
- Exposure to hazardous chemicals in concentrations equal to or greater than the Emergency Response Planning Guideline (ERPG) 2 levels.

Discussion

VIII. a, b) & c) The proposed project will not create a significant hazard to the public or the environment through the routine transport, use, and disposal of hazardous materials, due to the fact that the proposed Protocol does not require the transport, use, and disposal of hazardous materials. Based on the fact that the proposed Protocol and the operation of EV charging stations does not require the transport, use and disposal of hazardous materials, the proposed Protocol will not create a significant hazard to the public or environment through a reasonably foreseeable release of these materials into the environment.

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, there is little likelihood that affected facilities will emit new hazardous emissions or handle hazardous materials, substances or waste within one-quarter mile of an existing or proposed school as a result of implementing the proposed project. The potentially affected facilities are typically located in parking lots at commercial work areas, which typically do not generate any hazardous materials, so the existing setting does not change.

VIII. d) It is not anticipated that the proposed project will alter in any way how operators of facilities who choose to install EV charging equipment manage their hazardous wastes. Government Code §65962.5 typically refers to a list of facilities that may be subject to Resource Conservation and Recovery Act (RCRA) permits. It is not possible at this time to know the facilities that will be incentivized to install EV charging stations. However, for any facilities affected by the proposed project that are on the Government Code §65962.5 list, it is anticipated that they would continue to manage any and all hazardous materials and hazardous waste, in accordance with federal, state and local regulations.

VIII. e) Since the proposed project would incentivize the installation of new EV charging equipment projects throughout the SCAQMD and, implementation of the proposed Protocol is not expected to increase or create any new hazardous emissions in general, public/private airports located in close proximity to the EV charging stations will not be adversely affected. Implementation of the proposed Protocol is not expected to create any additional safety hazards for people residing or working in the project area.

VIII. f) The proposed project will not impair implementation of, or physically interfere with any adopted emergency response plan or emergency evacuation plan. The facilities potentially affected by the proposed Protocol are expected to be primarily located in commercial work place settings. Any existing commercial facilities affected by the proposed project will typically have their own emergency response plans. Any new facilities will be required to prepare emergency response and evacuation plans as part of the land use permit review and approval process conducted by local jurisdictions for new development. Emergency response plans are typically prepared in coordination with the local city or county emergency plans to ensure the safety of not only the public (surrounding local communities), but the facility employees as well. Since the proposed project does not involve the change in current uses of any hazardous materials, or generate any new hazardous waste, no changes to emergency response plans are anticipated.

Health and Safety Code §25506 specifically requires all businesses handling hazardous materials to submit a business emergency response plan to assist local administering agencies in the

emergency release or threatened release of a hazardous material. Business emergency response plans generally require the following:

1. Identification of individuals who are responsible for various actions, including reporting, assisting emergency response personnel and establishing an emergency response team;
2. Procedures to notify the administering agency, the appropriate local emergency rescue personnel, and the California Office of Emergency Services;
3. Procedures to mitigate a release or threatened release to minimize any potential harm or damage to persons, property or the environment;
4. Procedures to notify the necessary persons who can respond to an emergency within the facility;
5. Details of evacuation plans and procedures;
6. Descriptions of the emergency equipment available in the facility;
7. Identification of local emergency medical assistance; and
8. Training (initial and refresher) programs for employees in:
 - a. The safe handling of hazardous materials used by the business;
 - b. Methods of working with the local public emergency response agencies;
 - c. The use of emergency response resources under control of the handler; and
 - d. Other procedures and resources that will increase public safety and prevent or mitigate a release of hazardous materials.

In general, every county or city and all facilities using a minimum amount of hazardous materials are required to formulate detailed contingency plans to eliminate, or at least minimize, the possibility and effect of fires, explosion, or spills. In conjunction with the California Office of Emergency Services, local jurisdictions have enacted ordinances that set standards for area and business emergency response plans. These requirements include immediate notification, mitigation of an actual or threatened release of a hazardous material, and evacuation of the emergency area. Adopting the proposed Protocol is not expected to hinder in any way with the above business emergency response plan requirements.

VIII. g) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. The proposed Protocol has no provisions that dictate the use of, or generate any new hazardous material. Since the potentially affected facilities will primarily be located in parking lots at established commercial workplace areas where wildlands are typically not prevalent, risk of loss or injury associated with wildland fires is not expected as a result of implementing the proposed Protocol.

VIII. h) Affected facilities must comply with all local and county requirements for fire prevention and safety. The proposed project does not require any activities which would be in conflict with fire prevention and safety requirements, and thus would not create or increase fire hazards at these existing facilities.

Pursuant to local and county fire prevention and safety requirements, facilities are required to maintain appropriate site management practices to prevent fire hazards. The proposed Protocol will not interfere with fire prevention practices.

In conclusion, potentially significant adverse hazard or hazardous material impacts resulting from adopting and implementing the proposed Protocol are not expected and will not be considered further. No mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
IX. HYDROLOGY AND WATER QUALITY. Would the project:				
a) Violate any water quality standards, waste discharge requirements, exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board, or otherwise substantially degrade water quality?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g. the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner that would result in substantial erosion or siltation on- or off-site or flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Place housing or other structures within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, or inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Require or result in the construction of new water or wastewater treatment facilities or new storm water drainage facilities, or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Potential impacts on water resources will be considered significant if any of the following criteria apply:

Water Demand:

- The existing water supply does not have the capacity to meet the increased demands of the project, or the project would use more than 262,820 gallons per day of potable water.
- The project increases demand for total water by more than five million gallons per day.

Water Quality:

- The project will cause degradation or depletion of ground water resources substantially affecting current or future uses.
- The project will cause the degradation of surface water substantially affecting current or future uses.
- The project will result in a violation of National Pollutant Discharge Elimination System (NPDES) permit requirements.
- The capacities of existing or proposed wastewater treatment facilities and the sanitary sewer system are not sufficient to meet the needs of the project.
- The project results in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The project results in alterations to the course or flow of floodwaters.

Discussion

Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities.

No additional water demand or wastewater generation is expected to result from the operation of EV charging equipment at the potentially affected facilities because this type of technology does not require the use of water or generate wastewater. Further, the proposed Protocol has no provision that would require the construction of additional water resource facilities, increase the need for new or expanded water entitlements, or alter existing drainage patterns. The proposed project would not substantially deplete groundwater supplies or interfere substantially with groundwater recharge. The proposed Protocol would not create or contribute runoff water that would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff. Further, since the installation of EV charging equipment as a result of the proposed Protocol does not involve wastewater processes, there would be no change in the composition or volume of existing wastewater streams from the potentially affected facilities. In addition, the proposed Protocol is not expected to require additional wastewater disposal capacity, violate any water quality standard or wastewater discharge requirements, or otherwise substantially degrade water quality.

IX. a) & f) Installation of EV charging equipment as a result of the proposed Protocol will not change existing vehicle parking operations at potentially affected facilities, nor would the charging of electric vehicles result in generation of increased volumes of wastewater. As a result, there are no potential changes in wastewater volume or composition expected from the implementation of the proposed Protocol. Further, the implementation of the proposed Protocol is not expected to cause potentially affected facilities to violate any water quality standard or wastewater discharge requirements since there would be no wastewater volumes generated as a result of installing and operating EV charging equipment. The adoption of the proposed Protocol is not expected to have significant adverse water demand or water quality impacts for the following reasons:

- The proposed project does not increase demand for water by more than 5,000,000 gallons per day.
- The proposed project does not require construction of new water conveyance infrastructure.
- The proposed project does not create a substantial increase in mass inflow of effluents to public wastewater treatment facilities.
- The proposed project does not result in a substantial degradation of surface water or groundwater quality.
- The proposed project does not result in substantial increases in the area of impervious surfaces, such that interference with groundwater recharge efforts occurs.
- The proposed project does not result in alterations to the course or flow of floodwaters.

IX. b) Because the EV charging equipment that may be installed as a result of the proposed Protocol does not rely on water, no increase to any affected facilities' existing water demand is expected. Because EV charging equipment technology does not utilize water, implementation of the proposed Protocol will not increase demand for, or otherwise affect groundwater supplies or interfere with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. In addition, implementation of the proposed Protocol will not increase demand for water from existing entitlements and resources, and will not require new or expanded entitlements. Since the installation of new EV charging equipment

as a result of the proposed Protocol will generally occur at existing facilities, no paving is expected to be required that might interfere with groundwater recharge. Therefore, no water demand impacts are expected as the result of implementing the proposed Protocol.

IX. c), d), & e) Implementation of the proposed Protocol will occur at primarily existing facilities, or areas that are typically located in parking lots at existing commercial workplace areas that are paved and likely have drainage infrastructure in place. Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. Therefore, no

change to existing storm water runoff, drainage patterns, groundwater characteristics, or flow are expected.

IX. g), h), & i) The proposed project will not require construction of new housing, contribute to the construction of new building structures, or require modifications or changes to existing structures. Therefore, the proposed Protocol is not expected to generate construction of any new structures in 100-year flood areas as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood delineation map. Further, the proposed project is not expected to require additional operational workers at affected equipment locations. As a result, the proposed Protocol is not expected to expose people or structures to significant new flooding risks, or make worse any existing flooding risks. Finally, the proposed Protocol will not affect in any way any potential flood hazards inundation by seiche, tsunami, or mud flow that may already exist relative to existing facilities or create new hazards at existing facilities.

The proposed Protocol will not increase storm water discharge, since the limited construction activities associated with the installation of EV charging infrastructure are expected to occur at already existing, developed facilities. No major changes are necessary at the affected parking lots to increase storm water runoff during operations. Therefore, no new storm water discharge treatment facilities or modifications to existing facilities will be required due to the implementation of the proposed Protocol. Accordingly, the proposed Protocol is not expected to generate significant adverse impacts relative to construction of new storm water drainage facilities.

Based upon these considerations, significant hydrology and water quality impacts are not expected from the implementation of the proposed Protocol and will not be further analyzed in this final EA. Since no significant hydrology and water quality impacts were identified, no mitigation measures are necessary or required.



	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
X. LAND USE AND PLANNING.				
Would the project:				
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Land use and planning impacts will be considered significant if the project conflicts with the land use and zoning designations established by local jurisdictions.

Discussion

X. a) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. EV charging station projects may generate Rule 2202 credits at any location within the jurisdiction of the SCAQMD where charging stations can be installed for use by the general public or private parking lots and structures accessible only to employees. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Since installation of EV charging infrastructure as a result of the proposed Protocol is expected to occur at already existing facilities, it will not require or result in physically dividing an established community.

X. b) There are no provisions in the proposed Protocol that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments and no land use or planning requirements would be altered by the proposed Protocol. Affected facilities would have to comply with local ordinances and land use requirements. Therefore, as already noted in the discussion under “Biological Resources,” the proposed Protocol would not affect any habitat conservation or natural community conservation plans, or agricultural resources or operations, and would not create divisions in any existing communities. Present or planned land uses in the region would not be significantly adversely affected as a result of implementing the proposed Protocol.

Based upon these considerations, significant adverse land use and planning impacts are not expected from the implementation of the proposed Protocol and will not be further analyzed in this final EA. Since no significant land use and planning impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XI. MINERAL RESOURCES. Would the project:				
a)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?			
b)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
	Result in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?			

Significance Criteria

Project-related impacts on mineral resources will be considered significant if any of the following conditions are met:

- The project would result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state.
- The proposed project results in the loss of availability of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan.

Discussion

XI. a) & b) There are no provisions in the proposed Protocol that would result in the loss of availability of a known mineral resource of value to the region and the residents of the state, or of a locally-important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan. Some examples of mineral resources are gravel, asphalt, bauxite, and gypsum, which are commonly used for construction activities or industrial processes. Since the proposed project only affects EV charging infrastructure, the proposed Protocol does not require and would not have any effects on the use of important minerals, such as those described above. Therefore, no new demand for mineral resources is expected to occur and no significant adverse mineral resources impacts from implementing the proposed Protocol are anticipated.

Based upon these aforementioned considerations, significant mineral resources impacts are not expected from the implementation of the proposed Protocol. Since no significant mineral resources impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XII. NOISE. Would the project result in:				
a) Exposure of persons to or generation of permanent noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
d) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public use airport or private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Noise impact will be considered significant if:

- Construction noise levels exceed the local noise ordinances or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three decibels (dBA) at the site boundary. Construction noise levels will be considered significant if they exceed federal Occupational Safety and Health Administration (OSHA) noise standards for workers.
- The proposed project operational noise levels exceed any of the local noise ordinances at the site boundary or, if the noise threshold is currently exceeded, project noise sources increase ambient noise levels by more than three dBA at the site boundary.

Discussion

XII. a) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Therefore, implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. The proposed Protocol would not require any new development or require major modifications to buildings or other structures to comply with the proposed Protocol that would generate noise. EV charging stations are typically not noise generating equipment, so any new EV charging infrastructure installed would not be expected to generate noise above the existing setting. All of the affected activities are expected to occur at existing facilities. Thus, the proposed project is not expected to expose persons to the generation of excessive noise levels above current levels because no change in current operations is expected to occur as a result of the proposed project. It is expected that any facility affected by the proposed Protocol would continue complying with all existing local noise control laws or ordinances.

XII. b) The proposed Protocol is not anticipated to expose people to or generate excessive groundborne vibration or groundborne noise levels since limited construction activities are expected to occur at existing facilities that choose to install EV charging infrastructure. Any noise generated by the limited construction activities are expected to be temporary and minor. Additionally, EV charging stations are not inherently noisy and do not create excessive vibrations.

XII. c) A permanent increase in ambient noise levels at the affected locations above existing levels is not expected because EV charging infrastructure and equipment is not typically a noise intensive technology. Therefore, the existing noise levels are unlikely to change and raise ambient noise levels in the vicinities of newly installed EV charging locations to above a level of significance in response to implementing the proposed Protocol.

XII. d) Implementation of the proposed Protocol would only require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. Even if affected locations are located near a public/private airport, there are no new noise impacts expected from any of the existing facilities as a result of installing EV charging infrastructure to affect the operations of the airport. Thus, the proposed Protocol is not expected to expose people residing or working in the project vicinities to excessive noise levels. See also the response to item XII.a).

Based upon these considerations, significant adverse noise impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant noise impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIII. POPULATION AND HOUSING.				
Would the project:				
a) Induce substantial growth in an area either directly (for example, by proposing new homes and businesses) or indirectly (e.g. through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of people or existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts of the proposed project on population and housing will be considered significant if the following criteria are exceeded:

- The demand for temporary or permanent housing exceeds the existing supply.
- The proposed project produces additional population, housing or employment inconsistent with adopted plans either in terms of overall amount or location.

Discussion

XIII. a) Because the installation of new EV charging equipment only requires minimal labor (depending on projects size- less than 10 workers), it is expected that workers can be drawn from the existing labor pool in southern California. Further, the proposed project is not anticipated to

generate any significant effects, either direct or indirect, on the District's population or population distribution as no additional workers are anticipated to be required at the facilities to operate the EV charging stations. Human population within the jurisdiction of the SCAQMD is anticipated to grow regardless of implementing the proposed Protocol. As such, implementation of the proposed Protocol will not result in changes in population densities or induce significant growth in population.

XIII. b) Because the proposed project is primarily located in existing commercial areas, the proposed Protocol is not expected to result in the creation of any industry that would affect population growth, directly or indirectly induce the construction of single- or multiple-family units, or require the displacement of people elsewhere.

Based upon these considerations, significant adverse population and housing impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant population and housing impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XIV. PUBLIC SERVICES. Would the proposal result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered government facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:				
a) Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Police protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts on public services will be considered significant if the project results in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, or the need for new or physically altered government facilities, the

construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response time or other performance objectives.

Discussion

XIV. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. All newly installed EV charging equipment would be expected to be compliant with fire department standards, therefore, they would not increase the risk of fire to occur. No other physical modifications or changes associated with the operation of the EV charging stations are expected and no flammable substances are necessary to operate an EV charging station. As such, the proposed project will not increase the chances for fires or explosions that could affect local fire departments. Finally, the proposed Protocol is not expected to increase the need for security at affected equipment locations, which could adversely affect local police departments.

Because the proposed project does not require or involve the use of new hazardous materials or generate new hazardous waste, it will not generate an emergency situation that would require additional fire or police protection, or impact acceptable service ratios or response times.

XIV. c), d), & e) As indicated in discussion under item XIII. Population and Housing, implementing the proposed Protocol would not induce population growth or dispersion because no additional operational workers are expected to be needed at the existing affected facilities and construction workers will be temporary, not permanent. Therefore, with no increase in local population anticipated as a result of adopting and implementing the proposed Protocol, additional demand for new or expanded schools or parks is also not anticipated. As a result, no significant adverse impacts are expected to local schools or parks.

Based upon these considerations, significant adverse public services impacts are not expected from the implementation of the proposed Protocol and are not further evaluated in this final EA. Since no significant public services impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XV. RECREATION.				
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities that might have an adverse physical effect on the environment or recreational services?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

Impacts to recreation will be considered significant if:

- The project results in an increased demand for neighborhood or regional parks or other recreational facilities.
- The project adversely affects existing recreational opportunities.

Discussion

XV. a) & b) As discussed under “Land Use and Planning” (Section X) above, there are no provisions in the proposed Protocol that would affect land use plans, policies, or regulations. Land use and other planning considerations are determined by local governments. No land use or planning requirements would be altered by the adoption of the proposed Protocol, which only affects EV charging infrastructure. Further, the proposed Protocol would not affect District population growth or distribution (see “Population and Housing”- Section XIII) in ways that could increase the demand for or use of existing neighborhood and regional parks or other recreational facilities or require the construction of new or expansion of existing recreational facilities that might have an adverse physical effect on the environment because it would not directly or indirectly increase or redistribute population.

Based upon these considerations, significant recreation impacts are not expected from the implementation of the proposed Protocol. Since no significant recreation impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVI. SOLID/HAZARDOUS WASTE.				
Would the project:				
a) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Comply with federal, state, and local statutes and regulations related to solid and hazardous waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Significance Criteria

The proposed project impacts on solid/hazardous waste will be considered significant if the following occurs:

- The generation and disposal of hazardous and non-hazardous waste exceeds the capacity of designated landfills.

Discussion

XVI. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. New EV charging station projects are expected to be developed in existing parking lots/structures at already existing workplaces. Because the newly installed EV charging equipment has a finite lifetime, it will ultimately have to be replaced at the end of its useful life. Affected equipment may be refurbished and used elsewhere or the scrap metal or other materials from replaced units has economic value and is expected to be recycled, so any solid or hazardous waste impacts specifically associated with the proposed Protocol are expected to be minor. As a result, no substantial change in the amount or character of solid or hazardous waste streams is expected to occur. Sanitation districts forecast future landfill capacity and encourage recycling. Any portions of the EV charging stations that cannot be recycled are expected to be able to be disposed of in the available landfill capacity. Additionally, any waste generated by construction activities associated with the installation of new EV charging stations are expected to be minor. The proposed Protocol is not expected to increase the volume of solid or hazardous wastes from affected facilities, require additional waste disposal capacity, or generate waste that does not meet applicable local, state, or federal regulations.

Based upon these considerations, the proposed Protocol is not expected to increase the volume of solid or hazardous wastes that cannot be handled by existing municipal or hazardous waste disposal facilities, or require additional waste disposal capacity. Further, implementing the proposed Protocol is not expected to interfere with any affected facility's ability to comply with applicable local, state, or federal waste disposal regulations. Since no solid/hazardous waste impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVII. TRANSPORTATION/TRAFFIC.				
Would the project:				
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g. sharp curves or dangerous intersections) or incompatible uses (e.g. farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Impacts on transportation/traffic will be considered significant if any of the following criteria apply:

- Peak period levels on major arterials are disrupted to a point where level of service (LOS) is reduced to D, E or F for more than one month.
- An intersection's volume to capacity ratio increase by 0.02 (two percent) or more when the LOS is already D, E or F.
- A major roadway is closed to all through traffic, and no alternate route is available.
- The project conflicts with applicable policies, plans or programs establishing measures of effectiveness, thereby decreasing the performance or safety of any mode of transportation.
- There is an increase in traffic that is substantial in relation to the existing traffic load and capacity of the street system.
- The demand for parking facilities is substantially increased.
- Water borne, rail car or air traffic is substantially altered.
- Traffic hazards to motor vehicles, bicyclists or pedestrians are substantially increased.
- The need for more than 350 employees
- An increase in heavy-duty transport truck traffic to and/or from the facility by more than 350 truck round trips per day
- Increase customer traffic by more than 700 visits per day.

Discussion

XVII. a) & b) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. As a result, the proposed Protocol may result in an increased amount of EV's in the general traffic circulation system. However, it is likely that these new EV's will be replacing older, higher emitting gasoline combustion engine vehicles, so no near-term change in traffic and congestion is expected. With population growth over time, more vehicles would be expected, however, not due to the proposed Protocol, although the increase in vehicles may be electric due to the Protocol. The Protocol could incentivize the purchase of a second vehicle. However, it would not cause a change in traffic since only one car could be driven at any given time. Therefore, implementation of the proposed Protocol would not result in a net change or cause additional transportation demands or services. Similarly, the implementation of the proposed Protocol is not expected to adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities.

Implementation of the proposed Protocol would require facilities that choose to install EV charging infrastructure to conduct limited construction activities such as trenching for electrical conduit, placement of prefabricated EV charging equipment, and minor paving/concrete activities. These limited construction activities would require ten additional worker vehicle trips and five additional EV equipment delivery trips to facilities developing new charging station projects.

To evaluate any potential environmental impacts from future electric vehicle charging station projects, an environmental analysis was conducted on a known proposed project to expand and upgrade electric vehicle charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol. Due to the large project size,

this known project was used as an example for a “worst case” impact scenario. The proposed project includes installing 104 new charging stations, replacing six existing charging stations, installation of three new electrical transformers and two small concrete pads, and minor drilling and trenching activities. The environmental analysis concluded that this proposed project would not generate any significant adverse air quality environmental impacts. The detailed results of this air quality analysis are presented in Appendix B – Construction Emissions from Surrogate EV Charging Station Project and Section III.

Since a limited amount of construction-related trips (see Appendix B) and no additional operational-related trips per facility are anticipated, the adoption of the proposed Protocol is not expected to significantly adversely affect circulation patterns on local roadways or the level of service at intersections near affected facilities. Since a minor amount of construction is required at facilities choosing to install EV infrastructure, no significant construction traffic impacts are anticipated based on the analysis conducted.

XVII. c) Adoption of the proposed Protocol would incentivize the installation of new EV charging equipment projects throughout the SCAQMD. The proposed Protocol will not require operators of existing facilities to construct buildings or other structures that could interfere with flight patterns, so the height and appearance of the existing structures are not expected to change. Therefore, implementation of the proposed Protocol is not expected to adversely affect air traffic patterns. Further, the proposed Protocol will not affect in any way air traffic in the region because it will not require transport of any materials by air.

XVII. d) No physical modifications to roadways are expected to occur by implementing the proposed Protocol. Therefore, no offsite modifications to roadways are anticipated for the proposed project that would result in an additional design hazard or new incompatible uses.

XVII. e) New EV charging station projects as a result of the proposed Protocol are expected to be developed in existing parking lots/structures at already existing workplaces. As a result, the proposed Protocol is not expected to adversely impact existing emergency access.

XVII. f) New EV charging station projects as a result of the proposed Protocol are expected to be developed in existing parking lots/structures at already existing workplaces. No changes to the parking capacity at or in the vicinity of the affected facilities are expected. Although unlikely, if there is a surplus of EV charging parking spaces, conventional vehicles would still have the ability to utilize the parking spaces. Therefore, no shortage of parking spaces is expected. Further, the proposed Protocol is not expected to require additional operational workers, so additional parking capacity will not be required. Therefore, the proposed Protocol is not expected to adversely impact on- or off-site parking capacity. The proposed Protocol has no provisions that would conflict with alternative transportation, such as bus turnouts, bicycle racks, et cetera.

Based upon these considerations, the proposed Protocol is not expected to generate significant adverse project-specific or cumulative transportation/traffic impacts and, therefore, this topic will not be considered further. Since no significant transportation/traffic impacts were identified, no mitigation measures are necessary or required.

	Potentially Significant Impact	Less Than Significant With Mitigation	Less Than Significant Impact	No Impact
XVIII. MANDATORY FINDINGS OF SIGNIFICANCE.				
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Does the project have environmental effects that will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

XVIII. a) As discussed in the “Biological Resources” section, the proposed Protocol is not expected to significantly adversely affect plant or animal species or the habitat on which they rely because the installation EV charging infrastructure is expected to occur in existing commercial areas which have already been greatly disturbed and that currently do not support such habitats. Additionally, special status plants, animals, or natural communities are not expected to be found within close proximity to the facilities potentially affected by the proposed Protocol.

XVIII. b) Based on the foregoing analyses, cumulative impacts in conjunction with other projects that may occur concurrently with or subsequent to the proposed project are not expected to adversely impact any environmental topic. Related projects to the currently proposed project include existing and proposed amended rules and regulations, as well as AQMP control

measures, which produce emission reductions from most industrial and commercial sectors. Furthermore, because the proposed Protocol does not generate significant project-specific impacts, cumulative impacts are not considered to be "cumulatively considerable" as defined by CEQA guidelines §15065(a)(3). For example, the environmental topics checked 'No Impact' (e.g., aesthetics, agriculture resources, biological resources, cultural resources, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic) would not be expected to make any contribution to potential cumulative impacts whatsoever. The studies conducted by the power suppliers in the Basin show current reliability and future forecasting of energy supply and demand to not be cumulatively considerable. Also, in the case of air quality impacts, the net effect of implementing the proposed project with other proposed amended rules and regulations, and AQMP control measures is an overall reduction in District-wide emissions, thus, contributing to the attainment of state and national ambient air quality standards. Therefore, it is concluded that the proposed Protocol has no potential for significant cumulative or cumulatively considerable impacts in any environmental areas.

XVIII. c) Based on the foregoing analyses, the proposed Protocol is not expected to cause significant adverse effects to human beings. Significant adverse air quality impacts are not expected from the implementation of the proposed Protocol. Based on the preceding analyses, no significant adverse impacts to aesthetics, agriculture resources, air quality, biological resources, cultural resources, energy, geology and soils, hazards and hazardous materials, hydrology and water quality, land use and planning, mineral resources, noise, population and housing, public services, recreation, solid/hazardous waste and transportation and traffic are expected as a result of the implementation of the proposed Protocol.

As discussed in items I through XVIII above, the proposed project would have no potential to cause significant adverse environmental effects.

APPENDIX A

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS

- 1) This version of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is the version that was released for public review and comment with the Draft Environmental Assessment.
- 2) The Final version of the Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects can be found in the Final Rule Package.
- 3) Minor modifications were made to the proposed protocol subsequent to release of the Draft EA for public review. Staff has reviewed these minor modifications and concluded that they do not make any impacts substantially worse or change any conclusions reached in the Draft EA. As a result, these minor revisions do not require recirculation of the document pursuant to CEQA Guidelines §15088.5.

DRAFT

(Draft - ~~October~~ March 2014)

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATION PROJECTS

(a) Purpose

The purpose of this ~~P~~protocol is to establish procedures for evaluating, approving, and monitoring eligible electric vehicle charging station projects submitted under the Rule 2202 Air Quality Investment Program (AQIP) solicitation or pursuant to Rule 2202(f)(6).

(b) Applicability

This ~~P~~protocol applies to persons who voluntarily elect to generate Rule 2202 credits through the deployment of electric vehicle charging stations at any parking lot or structure located within the jurisdiction of the South Coast Air Quality Management District (SCAQMD) where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

(c) Definitions

- (1) AVERAGE VEHICLE RIDERSHIP (AVR) means the current number of employees scheduled to report to work during the window for calculating AVR divided by the number of vehicles arriving at the worksite during the same window.
- (2) CONTRACTOR means a person or entity who has an executed contract under a Rule 2202 Air Quality Investment Program (AQIP) solicitation to implement an Electric Vehicle Charging Station Project per the provisions of this Protocol. Contractor also includes a person or entity who contracts with the approved Rule 2202(f)(6) ~~A~~applicant to implement the Project, ~~so long as the contract requires compliance with all applicable requirements of this Protocol.~~
- (3) ELECTRIC VEHICLE CHARGING STATION (EVCS) means a device or station that provides power to charge the batteries of a dedicated battery-electric vehicle (BEV) or a plug-in hybrid electric vehicle (PHEV). These chargers are classified according to output voltage and the rate at which they can charge a battery. Level 1 charging can be done through most wall outlets at 120 volts and 15 amps AC. Level 2 charging is done at less than or equal to 240 volts and 60 amps AC, with a power output of less than or equal to 14.4 kW. Level 3 charging can be done with power output of greater than 14.4 kW.

- (4) EMISSION REDUCTION TARGET (ERT) means the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of Rule 2202.
 - (5) EMPLOYER means any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to one common governing board or governing entity or that function as one corporate unit are considered to be one employer.
 - (6) REPORTING PERIOD means every six months, but no longer than 12 months. The reporting period may be different based on the Rule 2202 AQIP contract or the SCAQMD approved Rule 2202(f)(6) application, but may not exceed 12 months.
 - (7) RULE 2202(~~Ff~~)(6) APPLICANT means any entity who submits a Rule 2202(f)(6) application to implement an electric vehicle charging station project that meets the provisions of this ~~Pp~~ protocol.
 - (8) RULE 2202 CREDIT means the emissions reductions ~~resulting associated with the amount of from~~ electricity consumption used to charge a ZEV as calculated by the emissions reduction quantification equation provided in this protocol, and is generated under a Rule 2202(f)(6) application and issued by the SCAQMD for the purposes of complying with Rule 2202.
 - (9) WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2-mile radius and are in the same Performance Zone as defined in Rule 2202.
 - (10) ZERO-EMISSION VEHICLE (ZEV) means, for the purposes of this ~~Pp~~ protocol, any vehicle that has an electric range powered by batteries and requires the use of an electric vehicle charging station to replenish the batteries. Examples include battery-electric vehicles (BEV) and plug-in hybrid electric vehicles (PHEVs).
- (d) Eligible Projects
- (1) Eligible projects include the installation of new electric vehicle charging stations installed on or after January 14, 2014 at any parking lot or structure located within the jurisdiction of the ~~South Coast Air Quality Management District~~ SCAQMD

where the charging stations are accessible to the general public or at private parking lots and structures designated for employee parking only.

~~(A) — Electric vehicle charging stations installed within one year prior to [insert date of approval of this protocol by the SCAQMD] are eligible to generate Rule 2202 credits.~~

(2) Notwithstanding subparagraph (e)(1), the following types of EVCS installations shall not be eligible to generate Rule 2202 credits:

(A) Electric vehicle charging stations that have received full ~~or partial~~ funding from California Energy Commission, California Air Resources Board, or SCAQMD including the Mobile Source Emissions Reduction Review Committee (MSRC).

(B) For electric vehicle charging stations that have received partial funding from any of the entities listed in subparagraph (d)(2)(A), the prorated portion based on the amount of funding received as a percentage of the total charging station project cost and as provided in the Emission Reduction equation pursuant to subparagraph (f)(2).

~~(B)~~ (C) Parking lots or structures that are owned by or have an arrangement with a Rule 2202 employer to provide parking to its employees, and the Rule 2202 employer accounts for zero emission vehicles as part of ~~their~~ its AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions).

(e) Credit Generator Requirements

Any person who elects to generate Rule 2202 credits under this ~~P~~ P protocol shall submit a Rule 2202(f)(6) application pursuant to Section II.F of the Rule 2202 On-Road Motor Vehicle Mitigation Option Implementation Guidelines.

(1) A Rule 2202(f)(6) application must be submitted within 90 days,

(A) From the date of installation of new charging stations installed after [insert date of approval of this P protocol by the SCAQMD]; or

(B) From [insert date of approval of this P protocol by the SCAQMD] for electric vehicle charging stations installed ~~within one year on or after~~ January 14, 2014 and prior to the date of approval of this Protocol.

(2) ~~If new electric vehicle charging stations are installed, or existing electric vehicle charging stations installed within one year prior to [insert date of approval of this protocol by the SCAQMD] at locations with existing charging stations that were installed over one year prior to [insert date of approval of this protocol by the SCAQMD], a demonstration must be provided with t~~ The Rule 2202(f)(6)

application shall describe how any of the above-qualified~~the new~~ electric vehicle charging stations will be monitored separately from ~~the any~~ existing unqualified charging stations.

(f) Emission Reduction Quantification

- (1) Emission reductions generated shall be based on actual electricity consumption at the electric vehicle charging station(s), which shall be located within the jurisdiction of the South Coast Air Quality Management District ~~and as provided~~ shown in Attachment I of Rule 2202.
- (2) The emission reductions shall be quantified using the following equation.

$$\text{Emissions Reduction} = \left[\frac{AL}{FE} \times EF \times (1 - FD) \right] \div (8320 \times DF)$$

Where:

Emissions Reduction = Emissions reduction of VOC, NO_x, or CO (lbs/yr).

AL = Activity Level is the total electricity usage from all EVCSs identified in the project used to charge zero-emission vehicles (kilowatt-hrs – kWh) during the reporting period

FE = Average combined fuel economy of BEVs and PHEVs for the current and past model years based on BEV and PHEV models provided at the Department of Energy's website(kWh/mile). (Default = 0.34 for Model Years 2013/2014)

EF = Emission Factor for VOC, NO_x, or CO (lbs/year) as provided in Table 2, Appendix B of the Rule 2202 On-Road Motor Vehicle Mitigation Options Annual Program Compliance Forms

FD = The ratio of the public funding to total funding of an electric vehicle charging station or a group of electric vehicle charging stations. (Default = 0.0 if no public funding incentives were received from the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the Mobile Source Air Pollution Reduction Review Committee (MSRC). Value is 1.,0, if the electric

vehicle charging stations were funded entirely by the California Energy Commission, California Air Resources Board, or the SCAQMD including funding from the MSRC.)

8320 = Conversion factor for *EF* from lbs/year to lbs/mile

DF = Discount Factor for the VOC, NO_x, or CO (lbs/mile)
(Default = 1.20)

- (3) The emission reductions can only be generated during the project life specified in the Rule 2202 AQIP contract or the project life specified in the Rule 2202(f)(6) application approved by the SCAQMD.
 - (4) Any additional emission reductions that are achieved by the project beyond the term of the contract or application approval may be used by the SCAQMD to further incentivize the deployment of zero-emission vehicles.
- (g) Credit Generation, Issuance, Use, and Project Life
- (1) Rule 2202 credits ~~generated~~:
 - (A) Shall be generated by an entity, including a Rule 2202 employer, that has a SCAQMD-approved Rule 2202 (f)(6) application to implement an EVCS project;
 - (B) Shall have a useful credit life of one year from the date of issuance of the Rule 2202 credit;
 - (C) Shall only be applied towards compliance as allowed under Rule 2202;
 - (D) May only be used, traded, or sold within the useful credit life for Rule 2202 purposes; and
 - (E) Shall not be transferable for compliance with any other local, state, or federal rules or regulations unless explicitly allowed under such regulations, in which case they may not be used for Rule 2202 compliance.
 - (2) All projects shall be inspected by SCAQMD prior to and following project implementation. Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.
 - ~~(A) Contractor or Rule 2202(f)(6) Applicant shall guarantee SCAQMD access to the site where EVCSs are installed for auditing and/or inspection purposes.~~

- (3) Rule 2202 credits will not be issued or emission reductions generated for AQIP purposes will not be approved by the SCAQMD until a post-inspection of the project has been completed by the SCAQMD to verify that the project was implemented as approved. This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) Applicant and all other parties involved in this project.
~~(A) — This provision shall be included in the contracts and/or agreements between Contractor or Rule 2202(f)(6) applicant and all other parties involved in this project.~~
- (4) If a Rule 2202 employer obtains Rule 2202 credits under this Pprotocol through a purchase or trade for such credits, the Rule 2202 employer is not eligible to credit zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the useful life of the Rule 2202 credits.
- (5) If an EVCS project is approved by the SCAQMD under a Rule 2202(f)(6) application or Rule 2202 AQIP contract and the project is located at a Rule 2202 worksite, the Rule 2202 employer is not eligible to switch to crediting zero emission vehicles as part of their AVR Adjustment in the Rule 2202 compliance reporting under Appendix A (Average Vehicle Ridership Survey Form and Instructions) for the duration of the project life specified in the applicable Rule 2202(f)(6) application or Rule 2202 AQIP contract.
- (6) The project life shall be shortened by the District to that period ending on the day upon which the emission reductions associated with the project cannot be used for Rule 2202 compliance~~are no longer surplus~~ or the project is found to be inconsistent with any federal, state or local regulation, or SCAQMD approved guidelines.
- (h) Monitoring, Recordkeeping, and Reporting
- (1) Monitoring
- (A) ~~A dedicated, non-resettable, totalizing electric meter capable of measuring electricity usage shall be installed for e~~Each electric vehicle charging station or each group of electric vehicle charging stations under the project shall monitor the electricity consumed during vehicle charging and the electricity consumed shall be recorded in ~~monthly~~ logs as required under the Recordkeeping Section of this Protocol.
- (i) The Contractor or Rule 2202(f)(6) Aapplicant ~~may shall~~ provide documentation as part of the AQIP solicitation (for Rule 2202

AQIP Contractor) or in the Rule 2202(f)(6) application (for Rule 2202(f)(6) Applicant or its Contractor) as to how electricity consumption shall be monitored or that the charging station has a usage meter installed and the usage information is recorded and reported to a central location.

(ii) If a meter cannot be installed on an electric vehicle charging station or on a group of electric vehicle charging stations, the Rule 2202(f)(6) Applicant or Contractor may use an alternative form of reporting electricity usage if the Rule 2202(f)(6) Applicant or Rule 2202 AQIP Contractor, at the time of the Rule 2202(f)(6) application submittal or AQIP contract execution, demonstrates to the satisfaction of the Executive Officer that the alternative form of reporting is equivalent to having a meter or meters installed.

(B) Should the ~~electric-usage~~ meter require repair and/or replacement, a maintenance record shall be prepared and submitted to the SCAQMD with the activity level data report as provided in the Reporting Section below. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.

~~(i) The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading.~~

(C) Emission reductions will be verified and credits will be issued only for electric vehicle charging stations identified in the Rule 2202(f)(6) application. If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.

~~(i) If additional electric vehicle charging stations are added to the previously approved and identified group of electric vehicle charging stations, then a new Rule 2202(f)(6) application shall be submitted for the new electric vehicle charging stations within 90 days from the installation of the new charging stations.~~

- (2) Recordkeeping
- (A) Contractor or Rule 2202(f)(6) ~~A~~applicant shall ensure that the following records are maintained:
- (i) ~~Monthly~~A log of total electricity consumption ~~from a dedicated, non-resettable electricity meter(s)~~(the reporting period for the logged data shall be provided as part of the Rule 2202 AQIP Contract or Rule 2202(f)(6) application);
 - (ii) Records of electricity charges paid to an electric utility or utilities (if appropriate), or equivalent documentation as described in the Rule 2202 AQIP Contract or Rule 2202(f)(6) application;
 - (iii) Rule 2202 credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
 - (iv) Records of any maintenance or repairs performed; and
 - (v) The data shall be recorded on a non-rewritable, non-volatile storage media, such as a CD or any other storage media such that the data can be readily accessed at the request of the District pursuant to subparagraph (i)(1). The original copy shall be maintained for at least three years after submittal of data for Rule 2202 credit evaluation.
- (B) Records shall be maintained by the project proponent during the project life and for three (3) years after the termination of the project or contract.
- (3) Reporting
- (A) Contractors or Rule 2202(f)(6) ~~A~~applicants shall submit progress reports to the SCAQMD every three months following contract execution or plan approval until project implementation, and then activity level data reports annually thereafter for the life of the project.
- (B) Applicants generating Rule 2202 credits pursuant to Rule 2202(f)(6) or Rule 2202 AQIP Contractors generating emission reductions under an AQIP contract may submit semi-annual activity level data and credit issuance requests in lieu of annual reporting if requested and approved by SCAQMD at the time of application approval or execution of an AQIP contract.
- (C) Each activity level data report shall be submitted within 60 days after the end of the reporting period.

~~(D)~~ If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

~~(D)~~(E) A time extension not exceeding 30 days may be allowed to supplement the activity data report with new information that that was not available during the 60 day period.

~~(i)~~ If the report is not timely submitted, the SCAQMD will not approve the emission reductions for the reporting period.

~~(E)~~(F) The SCAQMD shall notify the Aapplicant within 30 calendar days of receipt of a Rule 2202 credit request and activity level data report as to whether or not the request contains sufficient information to be deemed complete.

~~(F)~~ Upon receipt of any resubmittal or additional information after the request has been deemed incomplete, a new 30-day period shall begin.

(G) Within 45 days of submittal of a complete request, SCAQMD will either approve or disapprove the issuance of Rule 2202 credits for the reporting period.

(H) Each activity level data report shall, at a minimum, include:

(i) A brief description and location and number of electric vehicle charging station(s), only if this information has changed since the original application;

(ii) Number of kilowatt-hours consumed at the electric vehicle charging station(s) during the reporting period including all documentation and information necessary to verify the electricity consumption at the electric vehicle charging station(s);

(iii) Time period that the report covers;

(iv) Actual emission reductions, as calculated by the SCAQMD approved method in this Protocol;

(v) A brief description of any maintenance or repairs performed during the reporting period; and

(vi) All assumptions, calculations, and factors used to determine the activity level and derive the actual emission reductions that are not already included in the proposal/application;

(i) Auditing and Failure to Implement Rule 2202(f)(6) Application Provisions or AQIP Contract Provisions

(1) The records created pursuant to subparagraph (h)(2)(A) shall be made available to SCAQMD upon request for purposes of inspection and verification.

- (2) If Contractor or Rule 2202(f)(6) ~~A~~applicant or other parties involved in the project fail to adequately maintain records/logs pursuant to paragraph (h)(2), Rule 2202 credits, ~~(or emission reductions generated under an AQIP contract)~~, will not be approved for any period in which the records/logs were not maintained.
- (3) Failure to produce all requested records to the SCAQMD pursuant to subparagraph (g)(1) within 10 business days of the request may result in loss of Rule 2202 credits, ~~(or emission reductions for AQIP purposes)~~, for the time period following the request up until the time that records are produced.
- (A) Egregious or prolonged delays in submittal of requested records resulting in over 45 days from the date of request of request by the SCAQMD, may result in more severe penalties for violating Rule 2202, including rescinding of unused credits approved for a prior reporting period.
- (4) Any person submitting an Rule 2202(f)(6) application or under an AQIP contract who falsifies information in the application or fails to implement any provision of the application, shall be subject to penalties specified in law, including, without limitations, those in the Health & Safety Code.
- (A) The SCAQMD may also take one or more of the following actions:
- (i) Rescind its approval of the application in whole or in part and void any unused, previously issued Rule 2202 credits or emission reductions for AQIP purposes in whole or in part, and report any falsification of information to the State for appropriate action if the credits are generated under a State program, and/or
- (ii) Designate the ~~A~~applicant or Contractor to be ineligible to generate Rule 2202 credits or emissions reductions pursuant to this program or any other District program ~~or State program administered by the District~~.
- (j) Other Conditions
- To the extent that conflicting provisions are contained in an approved District regulation, the provisions of the regulation, and not of these Guidelines, are controlling.

APPENDIX B

**CONSTRUCTION EMISSIONS FROM A LARGE
ELECTRIC VEHICLE CHARGING STATION PROJECT**

Construction Emissions - EV Charging Station Project

Construction Emissions from A Large EV Charging Station Project

Known Project (SCAQMD's EV Charging Station Project) Surrogate for "Worst Case" Peak Daily Impact Scenario Construction Activities: Installing a total of 104 new charging stations; Replace 6 existing charging stations; Installation of 3 new transformers; Installation of 2 small concrete pads; Minor drilling activities; Minor trenching activities; To be Conducted Over a 2 month period.

Equipment Installation for New Charging Stations and Associated Infrastructure

**Construction Schedule - Three construction areas- Parking Deck (Area 1), Main Lot (Area 2), CC-8 (Area 3).
"Worst-case scenario" - Complete activities at 3 locations simultaneously; All equipment operating on given day.**

Activity	Equipment Type	No. of Equipment	Hrs/day	Crew Size
Off-Road Mobile Source Operations	Forklift	1	8	1
Off-Road Mobile Source Operations	Roller	1	8	1
Off-Road Mobile Source Operations	Cement Mixer	1	8	2
Off-Road Mobile Source Operations	Drill Rig	1	8	2
Off-Road Mobile Source Operations	Crane	1	8	1
Off-Road Mobile Source Operations	Backhoe	1	8	1
On-Road Mobile Source Operations	Delivery Truck	5	-	5
On-Road Mobile Source Operations	Worker Vehicle	10	-	18

- Place prefabricated charging equipment equipment from delivery trucks into place.
- Compact and surface two small concrete pads and small trench.
- Supply concrete for two small pads.
- Conduct minor drilling activities associated with laying of conduit at parking structure.
- Lift/load transformers from delivery truck into place.
- Conduct minor trenching activities associated with laying of conduit at CC-8 location.
- Deliver charging, transformer and electrical equipment.
- Deliver workers to job site.

2015 Construction Equipment Emission Factors	VOC	CO	NOx	SOx	PM10	PM2.5	CO2	CH4
Equipment Type*	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr	lb/hr
Forklift (composite)	0.0459	0.2200	0.3163	0.0006	0.0156	0.0156	54.4	0.0041
Roller (composite)	0.0851	0.3979	0.5706	0.0008	0.0386	0.0386	67.1	0.0077
Cement Mixer (composite)	0.0088	0.0419	0.0545	0.0001	0.0024	0.0024	7.2	0.0008
Drill Rig (composite)	0.0673	0.5022	0.6138	0.0017	0.0200	0.0200	164.9	0.0061
Crane (composite)	0.1204	0.4395	1.0200	0.0014	0.0426	0.0426	128.6	0.0109
Backhoe (composite)	0.0666	0.3716	0.4501	0.0008	0.0298	0.0298	66.8	0.0060

*Equipment is assumed to be diesel fueled.

Source: CARB's Off-Road Mobile Source Emission Factors for Scenario Year 2015

<http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/off-road-mobile-source-emission-factors>

Construction Emissions - EV Charging Station Project

Construction Vehicle (Mobile Source) Emission Factors for Years 2015								
Construction Related Activity	VOC lb/mile	CO lb/mile	NOx lb/mile	SOx lb/mile	PM10 lb/mile	PM2.5 lb/mile	CO2 lb/mile	CH4 lb/mile
Offsite (Construction Worker Vehicle)	0.00066355	0.00614108	0.00060188	0.00001070	0.00009259	0.00006015	1.10192837	0.00005923
Offsite (Equipment Delivery Truck - HHDT)	0.00178608	0.00766891	0.02122678	0.00004082	0.00104715	0.00087977	4.20902225	0.00008369

Source: EMFAC 2007 (v2.3) Emission Factors (On-Road Vehicles, Scenario Year 2015)

Composite Emission Factors for Passenger Vehicle and Heavy-Heavy Duty Trucks for Scenario Year 2015

[http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-\(v2-3\)-emission-factors-\(on-road\)](http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/emfac-2007-(v2-3)-emission-factors-(on-road))

Construction Vehicle Number of Trips and Trip Length

Vehicle	No. of One-Way Trips/Day	Trip Length (miles)
Offsite (Construction Worker)	20	25
Offsite (Drill Rig)	2	50
Offsite (Crane)	2	50
Offsite (Cement Mixer)	2	50
Offsite (Delivery/Haul Truck - HHDT)	10	50

- Peak day to include delivery of charging stations and forklift, roller, and backhoe to the site. However, construction equipment delivery/return to occur only 2 days out of the 2 month construction schedule.

Incremental Increase in Onsite Combustion Emissions from Construction Equipment

Equation: Emission Factor (lb/hr) x No. of Equipment x Work Day (hr/day) = Onsite Construction Emissions (lbs/day)

Equipment Type	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Forklift (composite)	0.37	1.76	2.53	0.00	0.12	0.12	435.17	0.03
Roller (composite)	0.68	3.18	4.56	0.01	0.31	0.31	536.40	0.06
Cement Mixer (composite)	0.07	0.33	0.44	0.00	0.02	0.02	57.99	0.01
Drill Rig (composite)	0.54	4.02	4.91	0.01	0.16	0.16	1319.37	0.05
Crane (composite)	0.96	3.52	8.16	0.01	0.34	0.34	1029.05	0.09
Backhoe (composite)	0.53	2.97	3.60	0.01	0.24	0.24	534.39	0.05
Construction Equip TOTAL	3.15	15.78	24.20	0.04	1.19	1.19	3912.36	0.28

Construction Emissions - EV Charging Station Project

Incremental Increase in Offsite Combustion Emissions from Construction Vehicles

Equation: Emission Factor (lb/mile) x No. of One-Way Trips/Day x Number of workers x Trip length (mile) = Offsite Construction Emissions (lbs/day)

Vehicle	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day
Offsite (Construction Worker Vehicle)	0.33	3.07	0.30	0.01	0.05	0.03	550.96	0.03
Offsite (Delivery/Haul HHDT)	0.89	3.83	10.61	0.02	0.52	0.44	2104.51	0.04
Vehicle TOTAL	1.22	6.90	10.91	0.03	0.57	0.47	2655.48	0.07

Total Incremental Combustion Emissions (Peak Day) from Construction Activities (Construction Equipment, Delivery Trucks and Workers' Vehicles)

	VOC lb/day	CO lb/day	NOx lb/day	SOx lb/day	PM10 lb/day	PM2.5 lb/day	CO2 lb/day	CH4 lb/day	CO2eq MT/year
TOTAL	4.38	22.69	35.12	0.07	1.76	1.66	6567.84	0.36	5.98
Significant Threshold	75	550	100	150	150	55	n/a	n/a	10,000
Exceed Significance?	NO	NO	NO	NO	NO	NO	n/a	n/a	NO

CO2eq emissions are amortized over 30 years (estimated life of project)

Construction Emissions - EV Charging Station Project

Total Increase in Fuel Usage From Construction Equipment and Workers' Vehicles

Overall Construction Activity	Total Project Hours of Operation	Equipment Type	Off-Road Fuel (gal/hr)*	Total Diesel Fuel Use (gallons)	Total Gasoline Fuel Use (gals)
Operation of Off-Road Equipment	40	Forklift	2.47	98.80	N/A
Operation of Off-Road Equipment	16	Roller	3.07	49.12	N/A
Operation of Off-Road Equipment	8	Cement Mixer	0.33	2.64	N/A
Operation of Off-Road Equipment	40	Drill Rig	6.52	260.80	N/A
Operation of Off-Road Equipment	8	Crane	3.44	27.52	N/A
Operation of Off-Road Equipment	8	Backhoe	1.87	14.96	N/A
Workers' Vehicles** - Commuting	N/A	Mixed Passenger	N/A	N/A	25.00
Offsite Delivery Trucks***	N/A	Heavy-Duty Delivery	N/A	33.33	N/A
TOTAL				487.17	25.00

– Assumes 5 days of unloading activities from delivery trucks.

– Assumes 2 days of compaction activities for 2 small concrete pads in Main Lot area (Area 2).

– Assumes 1 day of cement delivery for 2 small concrete pads in Main Lot area (Area 2).

– Assumes 5 days of drilling activities in Parking Deck area (Area 1) for installation of conduit.

– Assumes 1 day of loading transformers into place at 3 locations.

– Assumes 1 day of trenching activities at CC-8 location (Area 3).

*Based on CARB's Off-Road Model (Version 2.0) for Equipment Year 2015.

**Assume that construction workers' commute vehicles use gasoline and get 20 mi/gal and round trip length is 50 miles/phase.

***Assume that delivery trucks use diesel and get 15 miles/gallon traveling 100 miles roundtrip.

APPENDIX C

**DECEMBER 2013 SOUTHERN CALIFORNIA EDISON /
LADWP APPLICATION LETTER**



December 12, 2013

Ms. Carol Gomez
Transportation Programs Manager
South Coast Air Quality Management District
21865 Copley Drive
Diamond Bar, California 91765-0944

Dear Ms. Gomez:

Subject: Southern California Edison and the Los Angeles Department of Water and Power
Submittal of Rule 2202 Emission Reduction Quantification Protocol for
Electric Vehicle Charging Stations

As an ongoing commitment to invest in hybrid and electric vehicle infrastructure within the South Coast Air Basin, and to promote the use of low and zero emission vehicles for workplace commutes, the Southern California Edison (SCE) and the Los Angeles Department of Water and Power (LADWP) submit the enclosed Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Stations (Protocol).

The Protocol establishes a methodology for quantifying emission reduction credits for charging stations installed at worksites that are subject to Rule 2202. Worksites can use the credits generated from the use of the charging stations to help meet their emission reduction target. The adoption of this Protocol will provide not only a viable incentive for worksites to install charging stations, but will contribute to reducing emissions in the basin by promoting the use of low or zero emission vehicles.

The Rule 308 Emission Reduction Project Review fee of \$399.37 (Check No. 001680) is also enclosed. If you have any questions or need additional information, please contact SCE staff member Ms. Candice Gantt-Williams at (626) 302-9267 or LADWP staff member Mr. Stephen B. Gallie at (213) 367-0471.

Sincerely,

Handwritten signature of Dawn Wilson in blue ink.

Dawn Wilson
Director of Environmental Affairs
Southern California Edison

Handwritten signature of Mark J. Sedlacek in blue ink.

Mark J. Sedlacek
Director of Environment and Efficiency
Los Angeles Department of Water & Power

SBG:mt

Enclosures

c/enc: Ms. Dawn Wilson - SCE
Ms. Candice Gantt-Williams - SCE
Mr. Thomas Gross - SCE

RECEIVED

JAN 14 2014
A blue ink signature is written over a rectangular stamp that contains the date "JAN 14 2014".

RULE 2202 EMISSION REDUCTION QUANTIFICATION PROTOCOL FOR ELECTRIC VEHICLE CHARGING STATIONS

**Prepared by
Southern California Edison and the Los Angeles Department of Water and Power**

The purpose of this protocol is to establish procedures for evaluating, approving and monitoring the emission reduction credits associated with battery electric or plug-in hybrid electric vehicle charging, pursuant to Rule 2202(f)(5), Other Emission Strategies. The benefits of this protocol are twofold. The first is to provide an incentive for employers to install electric vehicle charging stations (EVCS), thereby encouraging employees to transition to low or zero emission vehicles for their commute into work. Secondly, under this protocol, the use of EVCS will assist an employer in meeting their worksite Emission Reduction Target (ERT).

This protocol will provide consistency in the evaluation and approval of Mobile Source Emission Reduction Credits (MSERCs) generated from EVCSs. MSERCs, once approved by the AQMD, can be traded or sold on the open market and used to offset emissions from stationary sources, the REgional CLean Air Incentives Market (RECLAIM), or employee commute programs. This protocol will also serve as guidelines to applicants by identifying the monitoring, recordkeeping and reporting requirements prior to project implementation. This protocol will apply to new projects that are initiated after the approval date of the protocol.

In the spirit of AQMD's Air Quality Management Plan (AQMP), approved by the Board on December 7, 2012, this protocol will assist in reaching some of the goals that have been outlined by encouraging employers, through the generation of MSERCs, to install EVCS at their worksite.

Definitions:

1. **ELECTRIC VEHICLE CHARGING STATION (EVCS)** includes any charging station that is designed, installed and dedicated for the use of charging electric or plug-in-hybrid vehicles.
2. **EMISSION REDUCTION TARGET (ERT)** is the annual VOC, NO_x, and CO emissions required to be reduced based on the number of employees per worksite and the employee emission reduction factor, determined in accordance with the provisions of subdivision (e) of this Rule.
3. **EMPLOYER** is any person(s), firm, business, educational institution, non-profit agency or corporation, government agency, or other entity that employs 250 or more employees. Several subsidiaries or units that occupy the same work site and report to

one common governing board or governing entity or that function as one corporate unit are considered to be one employer.

4. NITROGEN OXIDES (NO_x) are nitric oxides and nitrogen dioxides, collectively expressed as nitrogen dioxide.

5. MOBILE SOURCE EMISSION REDUCTION CREDITS (MSERCs) are emission reduction credits issued pursuant to Regulation XVI – Mobile Source Offset Programs.

6. PERFORMANCE ZONE is a geographic area that determines the employee emission reduction factor for a particular worksite pursuant to the map in Attachment 1 of Rule 2202.

7. VOLATILE ORGANIC COMPOUND (VOC) is any volatile compound of carbon, excluding: methane, carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, ammonium carbonate, and exempt compounds as defined in District Rule 102.

8. WORKSITE means a structure, building, portion of a building, or grouping of buildings that are in actual physical contact or are separated solely by a private or public roadway or other private or public right-of-way, and that are occupied by the same employer. Employers may opt to treat more than one structure, building or grouping of buildings as a single worksite, even if they do not have the above characteristics, if they are located within a 2 mile radius and are in the same Performance Zone.

Proposal/Application Submittal Requirements:

The proposal/application shall be consistent with all applicable local, state and federal guidelines. The proposal/application submittal requirements will be contained in the applicable Rule 2202 Implementation Guidelines. The application shall include all monitoring, recordkeeping and reporting requirements and trip reduction calculation methods that are to be used for determining the credits from EVCS.

Project Criteria:

One or more EVCS installed at the worksite may qualify for MSERCs under this protocol.

Emission Reduction Quantification:

If we know how much electric energy is used on an EVCS, we can approximate the actual miles driven. With many charging stations metered simultaneously, an aggregate of the electric miles can be calculated to a reasonable degree of accuracy.

The U.S. Department of Energy, Office of Energy Efficiency and Renewable Energy and U.S. Environmental Protection Agency support the Model Year 2013 Fuel Economy Guide, which shows combined city/highway kWh/mile figures as follows:

1. Smart fortwo electric drive convertible - .32kWh/mile
2. Smart fortwo electric drive coupe - .32kWh/mile
3. Fiat 500e - .29kWh/mile
4. Scion IQ EV - .28kWh/mile
5. Mitsubishi i-MiEV - .30kWh/mile
6. Ford Focus Electric - .32kWh/mile
7. Nissan Leaf - .29kWh/mile
8. Tesla Model S (60 kW-hr battery pack) - .35kWh/mile
9. Tesla Model S (85 kW-hr battery pack) - .38kWh/mile
10. Honda Fit EV - .29kWh/mile
11. Toyota RAV4 EV - .44kWh/mile
12. Toyota Prius Plug-in Hybrid - .29kWh/mile
13. Chevrolet Volt - .35kWh/mile
14. Ford C-Max Energi Plug-in Hybrid - .34kWh/mile
15. Ford Fusion Energi Plug-in Hybrid - .34kWh/mile

It is possible to calculate how many kilowatt hours were contributed to electric miles travelled over a particular time interval; however, it is not possible to know which electric vehicles were plugged in, when or for how long. It would also not be known how aggressively they would have been driven or climate impacts such as heat or cold. We would need to establish an expected average kWh/mile based on an average from the vehicles listed above, like .327kWh/mile. An aggregate kWh reading from all electric vehicle charging station meters divided by .327kWh would give us vehicle miles travelled.

The .327 kWh average, derived from taking an average of BEV and PHEV combined city and highway kWh/mile (from "Model Year 2013 Fuel Economy Guide", 2013), would be used to convert kWh usage from the EVCSs to electric vehicle miles. For example, if the survey meter showed that 10 electric vehicle charging stations on its circuit accumulated a total of 5000 kWh, then it could be approximated that the EVs charging on those stations would have driven 15,291 electric miles in aggregate over that time period (5000 kWh / .327 = 15,291 electric miles travelled). Those electric vehicle miles travelled would be incorporated into the following MSERC and CCVR calculations to determine the appropriate emission reduction credit amount:

EVCS Emission Reduction Credit Calculation

$$\text{MSERC} = [\text{VT}(\text{ZEVs})] \times [\text{EF}]$$

VT(ZEVs) = # of trips from electric vehicles

[EF] = Emission Factors from Appendix B – Supplemental Worksheets & Tables 2013 Emission Factors (from Rule 2202, Table 2):

- VOC = 4.16
- NO_x = 3.83
- CO = 41.16

Total number of annual operating workdays for the worksites = 260
(Rule 2202 default is 260 for employers with a 5 day work schedule)

Conversion factor for other work-related trips = 2.3
(from Rule 2202, Fig III-2)

Average Commute Trip Length (1-way trips) = 16 miles
Average Commute Trip Length (2-way trips) = 32 miles

Creditable Commute Vehicle Reductions (CCVR) = Total mileage from EVs (other work-related trips) / Average Commute Trip Length / Total number of annual operating workdays for the worksite

Emission reductions are subject to verification by the AQMD, and testing may be conducted at any time by the AQMD or a contractor designated by the AQMD. The activity level shall include the total kWhs from all EVCSs at a worksite used during the specified reporting cycle to power battery electric or plug-in hybrid electric vehicles.

Monitoring, Recordkeeping and Reporting:

In order to receive credit toward an ERT, emission reduction strategies approved under Rule 2202 (f)(5) must achieve real, quantifiable, enforceable, and surplus emission reductions for a discrete period of time. In addition, the project shall adhere to the following monitoring, recordkeeping and reporting requirements:

Monitoring:

1. Emission reductions will be verified and credits will be issued only for EVCS operated in the AQMD jurisdiction. The EVCS metering information, including any automated software or data acquisition databases shall be provided to the AQMD.
2. Records shall be kept either electronically or in written form for the length of the reporting cycle, be it quarterly, semi-annually or annually, of the beginning and ending meter usage. The AQMD may approve an alternative system to monitor the EVCS meter on a case-by-case basis, provided the alternative system can produce equivalent data.
3. Should an EVCS meter require repair and/or replacement, maintenance records shall be prepared and submitted to the AQMD with a data report. The maintenance record shall include: the date of the repair and/or replacement, type of repair and/or replacement, meter reading at time of repair and/or replacement, and date of completion with the new meter reading. During times of meter maintenance, a hand-

written log shall be maintained documenting the activity of the EVCS. Any operation of the EVCS without a working meter shall not be considered in calculating emission reductions.

Recordkeeping:

Employer or Rule 2202 applicant shall ensure that the following records are maintained:

- Emission reduction credits claimed, and the calculations demonstrating how the emission reductions were determined, and any data not already included in the proposal/application that is used to calculate the emission reductions;
- Records of any maintenance or repairs performed, including those to the EVCS or its meter, including but not limited to a repair receipt or other documentation specifying the date(s) of service and type of maintenance/repair performed.

The above records shall be made available to AQMD upon request for purposes of inspection and verification. Review of the above records and operations shall be made by AQMD at its discretion. Failure to produce all requested records to the AQMD within 10 business days of the request may result in loss of emission reduction credits for the time period following the request. Records shall be maintained by the project proponent during the project life and for 3 years after the termination of the agreement.

Reporting:

Rule 2202 applicants shall quarterly, semi-annually or annually submit documentation supporting their emission reduction credit calculations. The report shall, at a minimum, include:

- A brief description and location of operations, only if this information has changed since the original application.
- The amount of electricity in kilowatt hours (kWh) used by the EVCS at the worksite during the chosen reporting cycle.
- Dates that the report covers;
- Actual emission reductions, as calculated by the AQMD approved method;
- A brief description of any maintenance or repairs performed;
- All assumptions, calculations and factors used to determine the actual emission reductions that are not already included in the proposal/application.
- Electronic monitoring data as required by AQMD in a format that is acceptable to the AQMD.

Other Conditions:

- Emission reductions from the project approved under Rule 2202 must not be required by any federal, state or local regulation, memorandum of agreement/understanding with a regulatory agency, settlement agreement, mitigation requirement, or other legal mandate.
- The emission reductions will be credited for the term of the project life specified in the Rule 2202 application approved by the AQMD.
- Emission reductions shall be based on actual usage within AQMD jurisdiction.
- The same usage used for the NOx emission reduction quantification shall be used as the activity level for issuing credits for VOC and CO.
- Emission reductions achieved under the contract or plan shall be as calculated from the actual EVCS meter data.
- If the parties involved in the project fail to adequately maintain the records described in this protocol, no emission reductions will be approved for any period in which the records were not maintained.
- The owner of the EVCS must sign and agree to the application. A third party may complete an application, or part of an application, on an owner's behalf. In such cases, the application must also include a signature section for the third party. The third party signature section must include signature and date, and the third party must specify how much they are being compensated, if any, to complete the application and what source of funds are being used to pay for them. The owner must be provided with a copy of the application. The application must include a copy of the contract and/or agreement between the third party and owner.
- For any person submitting an application who falsifies information in the application or fails to implement any provision of the application, the AQMD may also take one or more of the following actions: 1) disapprove the application and void all previously issued credits, and/or 2) designate the applicant to be ineligible to generate credits pursuant to this program or any other District program or State program administered by the District.
- To the extent that conflicting provisions are contained in contracts implementing EVCS emission reduction credit programs, the provisions of the contract, and not of these Guidelines, are controlling.

APPENDIX D

**COMMENT LETTER RECEIVED AND RESPONSES TO
COMMENTS**

Question 1

Considering the following statements with the Draft Assessment:

“The Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects is a discretionary action by a public agency, which has potential for resulting in direct or indirect changes to the environment and, therefore, is considered a “project” as defined by the California Environmental Quality Act (CEQA).”

“This includes any worksite where the employer is subject to Rule 2202, provided that the vehicles accessing the charging stations are not currently used by that employer to comply with Rule 2202’s Average Vehicle Ridership (AVR) target.”

“CEQA and Rule 110 require that potential adverse environmental impacts of proposed projects be evaluated and that feasible methods to reduce or avoid significant adverse environmental impacts of these projects be identified.”

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Based upon these statements, the environmental assessment should consider the direct and indirect effects on Rule 2202 including current mobile source emission reductions programs funded by and contributing towards Rule 2202 compliance, future expected mobile source emission reduction projects, the availability of Rule 2202 AQIP funds, and whether the projected increase of available credits will saturate Rule 2202 resulting in pricing irregularities and similarly unexpected consequences. In order to achieve this, a projection of the yearly credit generation expected to be provided under this protocol must be developed.

Question 2

The project title for the Draft Environmental Assessment is: “Rule 2202 Emission Reduction Quantification Protocol for Electric Vehicle Charging Station Projects.” The project is redefined in the Draft Assessment as follow: “In order to ensure that any potential significant adverse environmental impacts are identified and evaluated and that feasible methods to reduce or avoid any potential significant adverse environmental impacts associated with the proposed project are identified and evaluated, an environmental analysis was conducted on a known proposed project to install and upgrade EV charging infrastructure at the SCAQMD headquarters as a surrogate for potential future projects deployed as a result of the new Protocol.” The environmental impact focuses on electric vehicle charging station installation projects and their associated energy consumption during ongoing operations. It does not include 1) the impact on Rule 2202 nor does it consider 2) the ongoing usage, maintenance and monitoring of the electric vehicle charging stations. These should be included in the assessment. The project that is being assessed is the protocol and its direct and indirect effects on the environment, not only the installation and expected energy consumption of electric vehicle charging stations.

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Question 3

Currently, a single zero emission vehicle entered by an employee during the Rule 2202 AVR survey reduces the measured AVR by one vehicle trip, which has a value in terms of reductions in VOC, NOx and CO emissions. With the protocol as presented on November 19th, 2014, this

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same electric vehicle will reduce the measured AVR by more than one vehicle trip and will therefore be valued at a greater amount of VOC, NOx and CO. This will effectively reduce Rule 2202 AVR goal requirements for Rule 2202 regulated sites. In fact, since both non-regulated employee's vehicles and non-commuting miles will be included, the analysis must include both of these contributing factors to determine the net effect. Rule 2202 currently assumes approximately 14.2 miles per one way trip per commuting vehicle and the total commuters regulated under Rule 2202 is a well-known number.

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Cont

Question 4

The Draft Assessment states: "Due to the large size of the proposed SCAQMD infrastructure expansion, this known project was used as an example for a "worst case" impact scenario." The assumption should be reconsidered. The SCAQMD employs approximately 700 employees. There are over 420 Rule 2202 regulated sites that employ greater than 700 employees. Since these sites will benefit most from the implementation of this protocol, they are most likely to apply under the protocol. This assumption should be reconsidered. The "worst case" project scenario results in the installation of 110 electric vehicle charging stations during a two month construction period, equivalent to 660 charging stations over a 12 month period. Commonly available installation projections, the SCE and LADWP analysis, the IRP, and the CARB electric vehicle goals...all point to a greater installation rate and therefore a multiplying factor when considering the environmental impact.

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Question 5

Under the heading of Air Quality Significance Criteria, the draft assessment states: "To determine whether or not air quality impacts from adopting and implementing the proposed Protocol are significant, impacts will be evaluated and compared to the criteria in Table 2-1. The project will be considered to have significant adverse air quality impacts if any one of the thresholds in Table 2-1 are equaled or exceeded. To determine whether or not greenhouse gas emissions from the proposed project may be significant, impacts will be evaluated and compared to the 10,000 MT CO2/year threshold for industrial sources." Currently, Emission Reduction Projects whose emissions are surrendered under Rule 2202 result in emission reductions for VOC, NOx, CO and PM10. The Draft Assessment should include the expected quantifiable effect of the protocol adoption on the current Rule 2202 emission reductions to determine whether or not these reductions have been appropriately evaluated. These should include but not be limited to:

1-5

- f) Diminish an existing air quality rule or future compliance requirement resulting in a significant increase in air pollutant(s)?
- g) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?
- h) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

Question 6

The adoption of this protocol for electric vehicle charging station projects will establish a unique precedence for the adoption of similar protocols for other energy infrastructure projects which utilize alternative energy sources. These are likely to include natural gas infrastructure projects, infrastructure projects for the distribution of alternative fuels for passenger vehicles, commercial vehicles and off road vehicles, an electric vehicle battery swapping infrastructure protocol and a myriad of other possibilities. A battery swapping infrastructure project has been demonstrated by Tesla and a good case studies for natural gas infrastructure installations are readily available. The longer term environmental consequences of the adoption of this protocol should be considered.

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Question 7

The production and adoption of electric vehicles has been encouraged through many avenues, including subsidies, tax breaks, environmental credits, etc. At one point, Tesla estimated that they were awarded \$24,000 in marketable environmental “credits” for each vehicle produced. Yet, the profitability and long term viability of electric vehicles manufacturers is constantly being called into question. The value of the additional and surplus credits generated by the proposed protocol will be forever “taken away” from electric vehicle manufacturers and consumers of electric vehicles and transferred to large companies, large government and large NGOs. The annuity value lost by electric vehicle manufacturers and their consumers will necessarily result in fewer vehicles produced/purchased due to the value being shifted away from the electric vehicle supply chain. The expected annuity value of a credits generated over the lifetime of a single electric vehicle must be established in order to understand the lost opportunity to fund the electric vehicle supply chain. In addition, additionality considerations will preclude electric vehicles being driven in California from qualifying for future state-wide, national or international emission reduction protocols.

1-7

Reponses to Written Comments

A public consultation meeting was held on November 19, 2014. Representatives from Los Angeles Department of Water and Power (LADWP), Southern California Edison (SCE), and the general public, including regulated employers, credit brokers and other interested parties, attended the meeting and provided comments to SCAQMD staff on the proposed quantification protocol. Two written comment letters (from Richard Teebay and David Haupt) were received that were addressed to CEQA staff. The written comments received from Mr. Teebay were focused on specific protocol provisions and not the CEQA analysis. Therefore, this comment letter was responded to in the Staff Report for the EVCS protocol. Mr. Haupt's comments are addressed below.

- 1-1 The comment states that the EA should consider the direct and indirect effects on Rule 2202, including current mobile source emission reduction programs funded by and contributing towards Rule 2202 compliance, future expected mobile source emission reduction projects, the availability of Rule 2202 AQIP funds, and whether the projected increase of available credits will saturate Rule 2202 resulting in pricing irregularities. The environmental assessment did consider the direct and indirect effects from future expected mobile source reduction projects which are anticipated to be the construction and operation of EV charging stations.

However, issues regarding funding, market saturation and pricing irregularities do not have a direct physical impact on the environment, so they are not typically evaluated in the environmental assessment. No indirect impacts to the environment are expected for the following reasons. The proposed protocol has the potential to increase availability of Rule 2202 credits that can be used for compliance with Emission Reduction Strategy (ERS) program. However, staff is unable to predict if the proposed protocol will change employer compliance behavior and any analysis of consumer behavior is speculative at this time. The flexibility to change compliance options exists regardless of the proposed protocol.

With regards to the development of a projection of the yearly credit generation, the proposed protocol requires monitoring and recordkeeping that will enable staff to monitor the overall efficacy of the program.

Additionally, the credit market that the proposed project could potentially affect is bounded by those subject to Rule 2202. Therefore, no influx of credits is likely.

- 1-2 The comment states that the environmental assessment (EA) focuses on impacts associated with electric vehicle charging station installation projects and their associated energy consumption during ongoing operations. However, the commenter notes the EA does not consider the "impact on Rule 2202" or the ongoing usage, maintenance, and monitoring of the electrical vehicle charging stations. The commenter is correct that the main focus of the environmental assessment is on construction impacts from installation and ongoing energy demand and consumption during the operation of newly installed infrastructure, because these were determined to be the main two potential adverse impact areas during the review of the environmental checklist, as detailed in the CEQA

Guidelines. The proposed project will not have any adverse impact on Rule 2202 because it simply provides an incentive to install EV charging station infrastructure and does not modify any of the existing basic requirements of Rule 2202. The proposed project under CEQA is the addition of the protocol, which was addressed in the environmental assessment. It is not reasonably foreseeable that this protocol will have a substantial impact on the percentage of users who choose to install EV infrastructure because of the commitment to fund, availability of EVs to charge is not widely available. The proposed protocol simply provides an incentive to do so, furthering the goals outlined in the 2012 Air Quality Management Plan. Furthermore, the environmental assessment does address the ongoing usage of the EV charging stations, such as the energy use from future operation of the EV stations, and the maintenance and monitoring activities of the EV stations do not generate physical adverse impacts as demonstrated by the minimal monitoring activity of existing EV stations, which entails a fixed meter and a maintenance record.

- 1-3 The commenter gives an example and states that the proposed protocol will reduce the Rule 2202 AVR goal requirements for Rule 2202 regulated sites. Rule 2202 provides flexibility to affected employers to comply with the average vehicle ridership targets through a choice of several equivalency options. The rule does not favor one option over another option and the affected employers will choose the option that is most cost-effective to comply with the rule. Since this protocol is voluntary, and use of the protocol depends on a number of factors outside the control of SCAQMD, cumulative projections of the number of VOC, NOx and CO credits that will be qualified and generated under this new protocol for use in Rule 2202 cannot be specifically quantified at this time. With regard to reducing Rule 2202 AVR goal requirements, there are provisions in the draft protocol to ensure that the credits are not “double-counted” by an affected Rule 2202 employer for rule compliance purposes.

In addition, SCAQMD staff will be monitoring the use of credits for compliance with Rule 2202 and will assess the program along with other strategies being used by affected Rule 2202 employers as part of the annual progress report to the SCAQMD Governing Board. The proposed protocol will actually give employers an additional tool to meet their AVR requirements, and not reduce compliance at Rule 2202 regulated sites.

- 1-4 The commenter states that the “worst case” impact scenario evaluated in the environmental assessment should be reconsidered because there are over 420 Rule 2202 regulated sites that employ greater than 700 employees. The “worst case” impact scenario evaluated in the environmental assessment was not chosen based on the number of employees or projected number of employees who will purchase EVs because of an increase in the number of EV charging stations at the workplace. This proposed EV charging station project was chosen to be evaluated because it is the largest known proposed EV charging station installation project in the SCAQMD jurisdiction. A project of this size is unprecedented for the region, and therefore, was a perfect case for evaluation as a “worst case” impact scenario. Additionally, the SCAQMD headquarters is widely considered to be an innovative technology hub, so this particular site services EVs and alternative fuel vehicles that are not necessarily employees of the SCAQMD. SCE and LADWP projects were also reviewed when considering the environmental impact analysis for the proposed protocol. The commenter’s suggestions of evaluating

660 charging stations over a 12 month period is not likely to occur and no substantial evidence has been provided to make such a conclusion. Regardless, the environmental analysis evaluates a daily peak impact to air quality and ongoing energy impacts from EV operations and those impacts were determined to be not significant.

- 1-5 The commenter states that the environmental assessment should include the expected quantifiable effect of the protocol adoption on the current Rule 2202 emission reductions. Since this protocol is voluntary and use of the protocol depends on a number of factors, cumulative projections of the amount of emission reductions that will be qualified under this protocol cannot be specifically quantified at this time. However, the environmental assessment did evaluate and quantify the expected effect of the proposed protocol based on the most appropriate “worst case” scenario that was reasonably foreseeable. In addition, all environmental impacts outlined in the environmental checklist were reviewed and evaluated accordingly. Further, SCAQMD staff will be monitoring the overall efficacy of the protocol through required monitoring and recordkeeping provisions in the protocol.
- 1-6 There is no substantial evidence or intent to adopt similar protocols, nor would the future adoption of new protocols generate significant adverse consequences, as demonstrated by the 2008 adoption of the marine vessel protocol. The marine vessel protocol is the only other protocol that has been developed specifically for Rule 2202 purposes. Relative to marine vessel projects, only two entities have initiated projects because of the marine vessel protocol. Therefore, it is not anticipated that there will be an influx of EV charging station projects due to the adoption of the proposed protocol. This EV charging station protocol is being proposed because there is a mechanism for it via Rule 2202(f)(6) and is bounded by the Rule 2202 universe.
- 1-7 The proposed protocol’s purpose is to incentivize greater deployment of EV charging stations at the workplace and in turn, increase the adoption rates for zero-emission vehicles. The credits generated can only be used by Rule 2202 employers. As such, the credits have no value to battery and electric vehicle manufacturers if they are not subject to Rule 2202. As part of the outreach on Rule 2202 implementation, SCAQMD staff will inform Rule 2202 employers on the opportunities to either generate credits through EV charging station projects or acquiring credits to comply with Rule 2202 from such projects.

Since the purpose of the proposed protocol is to help encourage greater use of the zero-emission vehicles, the deployment of EV charging stations in themselves do not have emission reductions, but rather the use of the zero-emission vehicles compared to conventionally fueled vehicles. Those reductions are accounted for by CARB in the Advanced Clean Car regulations. Within the scope of Rule 2202, the use of zero-emission vehicles reduce the emissions associated with vehicle miles traveled (VMT). There is a provision in the federal Clean Air Act that calls for a demonstration that emissions associated with increases in VMT be reduced.